



**An exploration of the factors that affect the extensive
meal experience for the older person living in
residential care**

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Abstract

Mealtimes in care homes can impact on resident wellbeing. There is evidence from the literature that food and drink intake in care homes can be influenced by individual concepts including person-centred approach, food-service, sensory factors, environmental factors, social interaction, and staff responsibility. However no single study has reviewed the complex nature of the holistic mealtime experience. An approach is needed to fully understand the complexity of food and fluid delivery in care homes from both the staff and resident perspective.

The aim of the study is to critically explore the factors that affect the extensive meal experience for the older person in long term residential care in order to identify the enablers and barriers for good nutritional care and promote wellbeing and quality of life.

A convergent parallel mixed method design explored the range of experiences and understandings of the mealtime experience from the perspectives of care staff and residents in residential care. A dominant qualitative thread of semi-structured interviews with 10 residents and 15 care home staff were corroborated by 15 structured mealtime observations. A quantitative questionnaire was distributed to care workers from a selection of care homes in Dorset (n = 52) to evaluate knowledge of food, drink and mealtimes.

Thematic analysis developed the theoretical analysis of transcribed interviews and observations. Themes and sub themes are mapped to demonstrate their interconnectivity around the mealtime experience and corroborated with rich narrative quotes from participants. Quantitative data are presented as frequency and percentages of response rates through a range of pie charts and bar graphs. Cross tabulations represent relationships between significant variables tested using Pearson Chi² test for independence. The collective findings are presented as a theoretical framework of the holistic mealtime experience for those living in long-term care from a staff and resident perspective.

Key findings show the mealtime experience is influenced by important psychosocial influences of person-centred aspects of offering food choice, relationships with others and social environment as well technical aspects of food and drink service, sensory appeal, involvement with food and hydration. Training methods differ in their effectivity with greater staff empathy demonstrated through reflective experiential training. Importantly the following were significant to ensuring a good mealtime experience for older adults living in residential care:

1. Flexibility of staff should focus on person-centred delivery of food and drink day and night in an environment to suit individuals, rather than be led by institutional systems. This has the potential to positively influence resident autonomy, independence and dignity.
2. The mealtime experience is the responsibility of all staff within the care setting. This includes kitchen staff, who were not always seen as part of the care team. All staff did not always know how to offer appropriate food choice for those living with diet dependent conditions.
3. Socialisation and the influence of both staff and other residents can impact on the mealtime experience both positively and negatively. In particular, staff should consider resident security when allocating seating plans and the impact of difficult residents on the mealtime situation.

Recommendations are made on how staff can improve the mealtime experience that concentrate on quality of life and wellbeing of the resident to improve overall training and practice of care home staff.

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Abbreviations

BAPEN	British Association of Enteral and Parenteral Nutrition
CQC	Care Quality Commission
CRB	Criminal Records Bureau
EU	European Union
GP	General Practitioner
FSA	Food Standards Agency
NICE	National Institute for Health and Clinical Excellence
MNA	Mini Nutritional Assessment
MSG	Mono sodium glutamate
'MUST'	Malnutrition Universal Screening Tool
ONS	Oral Nutrition Supplements
UK	United Kingdom
UN	United Nations
WHO	World Health Organisation

1 Background to the research

The author is a Registered Nutritionist and a food scientist. Prior to her academic career she developed new food products to optimise the sensory characteristics, including food preferences, of food and drink for consumers. As an educator and academic she remains passionate about the importance of the role of food choice and preferences when eating and drinking and their role in providing nutritional support for individuals. In 2010, she was approached by the Dorset based workforce development agency, Partners for Care, to deliver one day nutrition based courses for care workers in adult social care. These short courses were designed for managers and chefs of residential and nursing social care settings to understand more about the basic concepts of nutrition relevant to caring for the older person. The curriculum included: what constitutes a healthy diet, the risk factors of undernutrition, how to screen for undernutrition using the 'Malnutrition Universal Screening Tool' 'MUST', fortification of foods to increase energy intake and guidance on how to manage special dietary requirements such as Type 2 Diabetes and dysphagia. The course was designed to enable attendees to meet the requirements of the fundamental standards for food and drink delivery in care homes set by the Care Quality Commission.

At the same time, she became involved as the nutritionist in a European Union funded Interreg 2 Seas project entitled 'Dignity in Care'. The focus of this project was to further understanding, within the health and social care sectors, of what dignity means to service users. It was aimed at a spectrum of health and social care providers across the 2 Seas region: France, Belgium, Netherlands and UK with the UK partner focus on the adult social care sector. Bournemouth University was a stakeholder in the project which enabled Dorset based social care managers and care workers to undertake experiential training, by adopting the role of a care receiver, in a dedicated residential training facility in Belgium or the Netherlands. They experienced care from student nurses from either Belgium or the Netherlands as well as nutrition students from Bournemouth University who were responsible for the food and drink delivery. The 36 hours of training were interspersed with opportunities for both the cared for and the carers to reflect on the experience and fully understand dignity in care. The full experience is described by Vanlaere et al. (2010).

These two courses enabled her to gain a greater understanding of the residential social care sector. What became obvious through informal conversations with those involved in delivering care was the lack of understanding within the sector of how food and drink should be provided for older adults living in residential care. In turn, this demonstrated there was a lack of evidence of what made a good mealtime experience for this group

of the population. Little training was available on either basic nutrition such as the course we developed at Bournemouth University and even less was understood on the holistic value of food and drink. Yet, the reflections during the 'Dignity in Care' programme highlighted how important mealtimes were for those in long term care. National policy makers such as auditors, CQC, and work force development agencies such as Skills for Care were basing decisions on health eating models designed for healthy adults aged 18-65 years and yet, there was growing evidence that undernutrition was a major problem within the sector. More research was required to understand about mealtimes in residential care homes. Why were undernutrition rates not reducing and what older residents were expecting in terms of food and drink delivery and the mealtime experience when they moved into this setting? The average time residents live in residential care homes is just over two years. They normally enter due to ill health and are likely to die there therefore was it valid to base policy and training on nutrition models designed for younger, healthier adults?

It was against this background, the researcher realised she had an opportunity to understand more about mealtimes for older adults in the residential care setting. The courses she was involved with and her networks within the sector, including the regional workforce development agency meant she had access to a range of participants. There seemed to be willingness and drive by the sector, to engage in the work she wanted to. Informal conversations with care staff identified there was a lack of evidence how to improve mealtimes and to meet the holistic requirements of older residents. A lot of work had been done about undernutrition and the evidence for this is cited in the following chapter but a new approach with a different perspective would give an opportunity to explore what a good mealtime experience for older adults living in residential care could look like.

2 Introduction to the problem

2.1 Background

The number of adults over the age of 60 years living worldwide is estimated by the United Nations to be 962 million, a total of 13% of the world population (UN 2015). Globally the percentage of population of these older adults varies by country. Japan has the highest percentage with 30% of its population over this age and collectively, the countries of Europe come a close second with a quarter of its population (UN 2015; WHO 2018a). Estimates by the UN (2015) anticipate overall numbers to increase by three per cent a year and anticipate 2.1 billion people will be over 60 years by 2050. Importantly, the UN (2015) recognises the numbers of 'oldest-old' adults, who are defined as over the age of 80 years, are increasing at a far greater rate. Currently, there are 125 million oldest-old adults globally, but this figure is anticipated to triple in number by 2050 to 434 million (WHO 2018a). In the UK, the demographic pattern is similar, although the Office of National Statistics (2017) identifies UK older adults to be over the age of 65 years. In 2016 there were 11.8 million older adults recorded living in the UK aged over 65 years and for the first time in history the population over 80 years was three million (Office of National Statistics 2017); more importantly, the number of centenarians in the United Kingdom (UK) has risen by 65% in the past decade (Office of National Statistics 2016). It is anticipated the number of people over 85 years is set to double in the UK over the next 20 years with one in twelve of the population projected to be over 85 years by 2039 (Office for National Statistics 2015). The term older adult is used widely in this thesis. Statistics vary in their definition of the age of the older adult depending on their source (UN 2015; ONS 2017). For the purposes of this research, a lower limit of 65 years has been set in line with that set by the UK Office for National Statistics.

These figures are important because they show both globally and nationally an increasing number of both older adults and significantly, the 'oldest-old' adults. As age increases, there is an increasing likelihood that an individual will have to move into a residential care setting. Angelini and LaFerrerey (2012) reported, as part of their Survey of Health, Ageing and Retirement in Europe (SHARE) study, that moving into a nursing home is most likely to happen from the age of 80 years. This study included eleven European countries and identified significant differences between participating countries, with those older adults living in the Northern European countries of Denmark, Netherlands and Belgium most likely to enter the care setting in old age. This was attributed by the authors to be largely down to cultural and family patterns, as the Southern European states tend to have family infrastructures that care for their older relations (Angelini and LaFerrerey 2012). The UK was not part of this study and

indications are that older adults may move into care settings at an earlier age. Recent figures from the Office of National Statistics (2014) state that 291 000 people over 65 years live in care homes representing approximately 3.2% of the older population, although this increases to 13.7% of those aged 85 years and over.

A primary catalyst for losing independence and having to move into a care home is due to age related health problems (Gaugler et al. 2003; Wilmoth 2010). The biological and physiological changes of ageing can lead to a range of different health and frailty problems. The term 'geriatric syndrome' is applied by Inoue et al. (2007) to include common conditions treated by geriatricians. They propose that these manifest themselves multi-factorially, but include frailty, urinary incontinence, falls and pressure ulcers, often caused by reduced function of a number of different organ systems which require complex and co-ordinated treatment. Together, these often co-exist with other complex health problems such as functional impairment, dementia and Parkinson's disease (Mahadevan et al. 2013; Morley 2018). As a direct physiological result of ageing, older people are vulnerable to dehydration, due to the thirst mechanism becoming less sensitive. Dehydration is further exacerbated by increased water loss, due to thinning skin, directly leading to further health problems such as reduced cognitive status, blood pressure problems, urinary infections, incontinence, constipation and poor oral health (Bennett 2000).

Older individuals often find themselves involuntarily entering residential care following some form of critical incident such as losing a lifelong partner, a serious health condition, often stemming from geriatric syndrome, a bone fracture, or the onset of dementia (Cowley 2005; Angelini & Laferrere 2011). Frequently this can be preceded by a long stay in hospital due to the consequences of deteriorating health which can be further impeded with complex nutrition related problems including dysphagia, decreased appetite, fatigue, sarcopenia that can all affect both food and fluid intake (Chapman 2006; Begum & Johnson 2010; Yadigar et al. 2016). Additionally, alcoholism and depression caused by bereavement and isolation can result in a lack of interest in food and drink (Morley 1997). Together, these aspects of functional decline, multi-morbidity risk and disease can compound together and can contribute to a state of undernutrition and dehydration (Begum & Johnson 2010; Engelheart and Brummer 2018). However, it is not unknown for undernutrition to precede the onset of complex health conditions and the cycle to be reversed (Morley 2018). Undernutrition and dehydration can exacerbate deterioration in health conditions including an increased risk of heart failure, pneumonia, pressure sores and infection, as well as psychological disorders such as depression, apathy, fatigue and anxiety (Morley 1997; Chapman 2006; Charlton et al. 2012). The link between undernutrition, dehydration, other

complex nutrition related problems and geriatric syndrome conditions is well recognised and can often end up in a cyclical downturn in health and quality of life (Morley, 1997; Inoue et al. 2007; Begum & Johnson 2010; Russell and Elia 2012).

At this point, it is timely to draw attention to the terms commonly used in this thesis. The term care home is used frequently in conjunction with residential and long-term care. These terms refer to a residential setting where a number of older adults live, generally in single rooms, and receive personal care provided by a team of care staff, including a full meal service. This study did not focus specifically on care homes that provided nursing care, although some were registered to do so. Quality of life is a complex and multi-faceted concept that encompasses psychological, social and physical wellbeing (Kane 2003, Revicki et al. 2000). The WHO (1997) defines quality of life as:

‘Individuals perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns’.

Yet Kahn & Juster (2002) propose that wellbeing and quality of life are often used interchangeably. They postulate that wellbeing is directly linked to satisfaction of life and health and it is within this context the term wellbeing is used in this thesis.

Nutritional care has been defined by BAPEN (2019) to focus on undernutrition, whereby multidisciplinary teams identify those with undernutrition, implement the correct treatment and train those responsible in the process. This includes the use of food and nutrition care pathways to facilitate the treatment. However this thesis has adopted the more basic definition given by Lassen et al (2006) who defined nutritional care as ‘the basic duty to provide adequate and appropriate food and drinks’ and focuses on how individual need for food and fluids are met

Hydration is a factor in nutritional status that is often overlooked (Wakefield et al. 2002). Yet, its importance to health has prompted the use of the word nutrition in this research, to refer directly to all aspects of both diet and hydration unless specifically stated otherwise. Additionally the literature refers frequently to the terms undernutrition and malnutrition which are often used interchangeably when significant weight has been lost and remains low. However, malnutrition has been defined by WHO (2018b) as:

“Deficiencies, excesses or imbalances in a person’s intake of energy and/or nutrients.”

Therefore malnutrition can indicate both undernutrition (wasting and underweight) when BMI is less than 20 kg/m² or protein-energy malnutrition and over nutrition when BMI is in excess of 30 kg/m²; commonly referred to as obesity (Russell and Elia 2010; Morley 2018). Undernutrition rather than obesity is of primary concern for older adults. This is highlighted by Arvanitikas et al. (2008), who cite incidence of undernutrition in mainland Europe to be between 17-65%, and on an international scale Agarwal et al. (2016), in their literature review, cite global undernutrition prevalence between 4-71% depending on country and how the data are monitored, evaluated and recorded. For consistency and understanding, this document will use the term undernutrition, because significant weight loss - rather than obesity - is the key issue within the older population and of primary concern in this document.

Nutrition screening week surveys were conducted nationally in the UK from 2007 to 2011 to monitor nutrition risk status. They used criteria based on the 'MUST' to compare the prevalence of undernutrition on admission to hospitals, care homes and mental health units (Russell and Elia 2010). Considerable work has been undertaken by the British Association for Parenteral and Enteral Nutrition (BAPEN 2013) and researchers such as Russell and Elia (2010; 2012; 2014), Cawood et al. (2008) and Parsons et al. (2010) to highlight the high incidence of undernutrition in the older population in England. The key data are summarised by Russell and Elia (2012) who identified in their report from the nutrition screening week survey that 41% of the 523 older residents admitted into 78 care homes were identified as having medium to high risk of undernutrition in 2011. The incidence rates were similar for those moving from hospital and their own homes (40%) and slightly higher if transferring from other care homes (44%). These figures were an increase or similar to previous years, but show once established undernutrition is hard to reverse, although why this is, is not fully understood. As a consequence, there has been a strong policy focus on reducing undernutrition in the UK. Interestingly, a similar situation appears to exist across Europe whereby Roller et al. (2016b) estimate undernutrition prevalence in Europe to be between 20% and 60% but figures differ due to evaluation parameters varying in different countries.

The National Institute for Health and Clinical Excellence, (NICE), states principles for nutritional care in adults in quality standard (QS24) and clinical guidance (CG32) (NICE 2006; 2012). These standards make nutritional support the responsibility of all health and social care providers, including care home staff, with the focus on the identification of those who are at risk of undernutrition and to provide nutritional support for those who need it. Identification requires the use of screening tools of which the most widely

used in the UK according to Russell and Elia (2014) is the Malnutrition Universal Screening Tool ('MUST') (BAPEN 2013). However, although screening policy is reported to be implemented within 99% of UK care homes, who state they have a policy to screen and weigh residents when newly admitted, the figures show that fewer care homes link this screening directly to a care plan (96%) and use the 'MUST' screening tool (92%) (Russell and Elia 2012). As a consequence of the NICE standards identification of undernutrition and the use of screening tools has been encouraged by numerous national and local bodies including the Care Quality Commission (CQC 2017a), National Association of Care Catering (NACC 2013), The Royal College of Nursing, Registered Nursing Home Association and British Dietetic Association (BAPEN 2018).

Further political pressure and growing concern about good nutrition led to its inclusion in the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014. Nutrition screening, care and hydration are now included in the Fundamental Standards of Quality and Safety enforced by the Care Quality Commission (CQC 2012; 2017a). It is now an essential regulatory activity for care homes. The Care Act of 2014 introduced the new Care Certificate managed by Skills for Care in 2015 (Skills for Care 2014). This has led to common induction standards being introduced as part of a national training commitment by the sector for all entrants. As a result of the Dignity and Nutrition audits, undertaken by the Care Quality Commission in 2012, wider failings in one in six of the care homes in the audit were uncovered for the delivery of good nutritional care (CQC 2012). These included residents not being supported to eat and drink properly through poor staffing levels, inadequate care plans and knowledge of staff, as well as failing to deliver adequate choice of food to residents. Aspects of nutritional support have been included as a separate standard, to be attained by all care givers entering the profession. The importance of knowledge and understanding of diet and fluid intake in the care setting are included, but the focus is again on undernutrition screening and consideration of food preferences through an adequate food-service system and food safety. Yet, no clear support is given by policy makers on what that food-service system might look like or what else needs to be considered. The most recent '*Guidance on food served to older people in residential homes*' was published by the Food Standards Agency over 10 years ago and there is a lack of evidence for its relevance in today's care setting (FSA 2007).

Yet, despite the research by Russell and Elia (2010, 2012), Cawood et al. (2008) and Parsons et al. (2010) to understand the incidence of undernutrition and the aforementioned national policies focusing on screening for undernutrition and provision of nutritional support and care, there is no evidence that the incidence of undernutrition

is decreasing for older adults living in residential social care. No national studies have taken place recently, but Elia (2015) report incidence rates of between 30-42% based on the 'Nutrition Screening Week Surveys 2007-2011' (Russell and Elia 2014). Despite food provision being shown by Chisholm et al. (2011) to be an important part of the day within the care home setting, there is a lack of evidence of what quality nutritional care strategies should look like, with only a few studies focusing on a food based approach (Smoliner et al. 2008; Baldwin & Weekes 2011; Stow et al. 2015). Understanding the incidence of undernutrition and nutritional support are important, but there is increasing acknowledgement of the importance of the social and environmental situation in which meals take place and their impact on resident satisfaction and quality of life of residents and further understanding is needed of a more holistic approach to mealtimes (Koehler and Leonhaeuser 2008; Du Toit & Surr 2011; Boelsma et al. 2014). This is important because the cost of undernutrition to the UK National Health Service is considerable, with current best estimates of over £19.6 billion annually, with about half of this figure due to older people over 65 years (Elia 2015), although no specific figures are available for the over 85 years age group. Furthermore, given the impact of undernutrition on increasing the likelihood of frailty and geriatric syndrome further cost implications may exist. This is supported by Garcia-Nogueras et al. (2017). They identified how health care costs for the frail older person across the EU are nearly twice as much as for the non-frail. This increasing cost along with the rising older population means more understanding is required on how to optimise good nutritional care and gain a greater understanding of the overall food and drink experience for older people living in residential care.

Increasingly, there is recognition that encouraging independence and autonomy into older age is important and these are appearing on the agenda for social policy makers (Arezzo and Giudici 2017). Koren (2010) goes as far as to say that a complete culture change is required in care homes to promote person-centred care with the aim of improving overall quality of life. There is a growing realisation that nutrition is inextricably linked to wellbeing; and yet, food related care is often undervalued not only in the UK but globally (Hoffman 2008; Begum & Johnson 2010; Watkinson-Powell et al. 2014). Winterburn (2009) identified that greater autonomy and active participation in mealtimes tends to lead to improved enjoyment of food and Grondahl and Aargaard (2015) have shown reduced autonomy can contribute to risk of undernutrition. Food should be a fundamental part of care but it is unclear how a good mealtime experience relates to quality of life (Watkins et al. 2017). An effective personalised nutritional approach could help combat the increasing frail older population, that places a greater

emphasis on the importance of food and drink for wellbeing (Engelheart and Brummer 2018).

Nutritional care is more than just ensuring the correct supply of nutrients and yet, little work has been done to understand what impacts on good nutrition for the older person living in care. Geriatric syndrome and complex nutrition related problems mean management of nutritional care might need a different approach than the current policies suggest. The resultant development of frailty and physical impairment increases the need for assistance to eat and drink and can impact on enjoyment of mealtimes (Cowley 2005). Non communicable nutrition related diseases, such as Type 2 diabetes and cardiovascular disease, can change attitudes to food and drink as food choice becomes more limited and prescribed (Mahadevan et al. 2013). Other factors may influence the older person's inclination to eat and drink yet further understanding is required. The literature that is explored in chapter 3 has highlighted a number of individual aspects of food and drink delivery that can improve the overall mealtime experience for older people living in residential care. There is, however, little work to understand how these connect together holistically.

From the outset of this research it became apparent that there was an opportunity to investigate using an alternative, pragmatic approach in order to gain a greater understanding and appreciation of how the many factors are involved in the delivery of the whole 'meal experience' in residential homes for older people. The term meal experience has been assumed throughout this thesis to encompass the wider reaching aspects of the presentation and delivery of all food and drink at any time of the day whatever the amount offered.

It was important to not prejudge the situation and to take the opportunity to gather information from a number of different sources using a range of methods to fully understand the experiences elicited by the research aim. Interpreting the views of individuals was as important as understanding current patterns and trends in the mealtime experience. The opinions and attitudes of care home managers and care workers were important to understand how they influence mealtimes for residents. Understanding how these correlate with residents' experiences and requirements for a good mealtime experience was also important to fully understand the mealtime experience and gain a different perspective of how to improve undernutrition rates in the older population.

2.2 **Structure of this thesis**

This chapter has provided a brief background and rationale for the study. In order to fully understand the previous research that has been conducted concerning the different aspects of the mealtime experience a literature review was undertaken and is presented in Chapter 3. A range of databases were used that focused on education, food and health and social care and the search terms are identified in this chapter. The literature review took a continuous approach in order to fully review the emerging literature as it was published in order to understand the current situation as it materialised, although the initial phase of the literature review was used to enlighten the aim and objectives. Much of the research to date considers specific individual aspects of nutritional care, as well as, food and drink delivery including how to improve person-centred care, food-service challenges, increasing sensory appeal of food, as well as specific environmental and social contributors. No research to date reviews the holistic aspects of the mealtime experience and its influence on quality of life and wellbeing for the resident, from both a resident and staff perspective. This study aims to address this gap.

Chapter 4 presents the methodological background to this study which uses a pragmatic mixed methods approach by blending qualitative interviews from residents and staff, observations of mealtimes, with quantitative questionnaire responses from staff in a convergent parallel design. A detailed appreciation of the epistemological philosophy of the pragmatic approach is provided. The development of the data collection tools using the earlier literature review, the data collection approach along with sampling methods and participants is critiqued, along with detail of how the data was analysed, reliability and validity matters and ethical criteria.

The findings are presented in Chapter 5. There is no set method to present data using mixed method methodology, therefore the data from this research; the qualitative interviews, observations and quantitative data were all analysed independently. The results are presented by displaying the quantitative results first, followed by the qualitative data for all emerging sub themes in a side by side comparison. Together they provide evidence of the differences and similarities in the different data types, in order to fully appreciate the mealtime experience from both resident and staff perspectives. The chapter closes with an explanatory model summarises these findings

Chapter 6 discusses the findings presented in the previous chapter in order to fully understand the mealtime experience from the perspective of both residents and staff. Final conclusions are drawn in chapter 7, including identification of the enablers and

barriers to mealtimes, along with suggestions on how to improve the mealtime experience for policy makers.

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3 Review of the Literature

This chapter focuses on a review of the published literature to understand the existing knowledge relating to the mealtime experience. The procedure for the literature review is outlined taking into account the available databases. The search strategy is explained with inclusion and exclusion criteria. The developing concepts, both in the UK and internationally are critically explored from the literature using a range of search terms relating to the mealtime experience. The literature review elicited a range of themes that are critically discussed with relation to the relevant research and included person-centred care, food-service, sensory appeal, environmental factors, social interaction and staff responsibility. The few available existing models are discussed in order to understand the current knowledge that relates to mealtimes within institutional settings. Finally, a summary of the literature explores the gaps in research in order to identify the aim and objectives of the present study.

3.1 Background for the literature review

A comprehensive literature review was required in order to gain an understanding of developing and relevant concepts about aspects of the mealtime experience in order to develop a framework for the current study (Creswell 2009). An initial literature review was undertaken to establish the existing state of knowledge in order to inform the aim and objectives of the present study. The literature was subsequently continuously reviewed in order to ensure the review remained current throughout.

When drawing on the international literature, an important consideration is the differences between delivery of residential and nursing social care for older people in the UK compared to other countries. The introduction highlighted a study by Angelini and LaFerrerey (2012), whereby older adults varied in age as to when they entered into residential care, across a range of European countries. Another notable difference is the size of care homes in the UK. This is estimated to average 26 residents from the Care Quality Commission (CQC 2014a) although residential care homes tend to be smaller (approximate average of 19 residents) and nursing care homes larger with an average of 46 beds. Elsewhere in Europe, care homes can have on average at least twice the number of residents (Lievesley 2011). The number of residents, how meals are delivered and the subsequent effect on mealtime experiences for older adults living in the residential care setting therefore varies globally and requires consideration when drawing on the relevant literature.

3.2 **Procedure for literature review**

Interest in good nutrition gained momentum in hospitals with the 'Hungry to be Heard' initiative launched in 2006 (Age Concern 2006). Elia et al. (2003) highlighted the problems of undernutrition for older people, as a consequence of his work with BAPEN and establishing the incidence of undernutrition in hospitals. The first national audit of undernutrition in care homes in 2007 showed that 30% of care home residents in 173 care homes were identified as being undernourished using the same criteria as those used for 'MUST' (Russell & Elia 2008). The EU Council of Europe initiated recommendations to improve nutrition care in hospitals in 2003 (Arvanatikas et al. 2008). Protected mealtimes are an important component of these recommendations for hospitals and care homes and were included in the Department of Health (2015) report entitled 'The Hospital Food Standards Panel on Standards for Food and Drink in NHS hospitals'. Although designed for hospitals as part of the 'Better Hospital Food' programme in the early 2000's, recommendations from practitioners extended to care homes in 2007 (Community Care 2007). Arvanatikas et al. (2008) reported on the European forum held in 2007 that discussed the developing interest in food, nutrition and mealtime experiences in care homes. This has since been reinforced by UK government regulatory bodies such as the Care Quality Commission (CQC 2014a; 2017a). The work undertaken by researchers Russell and Elia (2010; 2012), Cawood et al. (2008) and Parsons et al. (2010) has highlighted the high incidence of undernutrition risk within care settings, from work first started in 2003. Unfortunately, as highlighted in the introduction, undernutrition rates have not decreased over this time and this has led to increasing political pressure from the EU and UK governments to encourage research on mealtimes in the care setting (Arvanatikas et al. 2010). Therefore this literature review concentrated on studies published from 2000 until 2017 as the growing awareness of undernutrition in care homes has intensified.

The first section of this chapter sets out the guidelines that were used for a rigorous scoping review of the literature. The literature review took a continuous approach in order to fully review the emerging literature in order to fully understand the current situation regarding the mealtime experience. At this stage, it is important to draw attention to a first phase of the literature review, which was used to identify the gaps in knowledge and enlighten the aim and objectives, as well as the study design (questionnaire design, interview and observation protocols). This has now been incorporated into the whole literature review presented in this chapter. In order to fully understand the extent of the work done to date, the literature review was conducted

using the relevant databases. Those with a broad range of available literature and those that focused on education, food and health and social care were included.

Cinahl

Web of Science

Sage

Academic Search Complete,

Medline,

The search strategy was developed from the initial problem highlighted in Chapter 2. A combination of free text terms, synonyms and Boolean operators were used to facilitate the search. These are shown in Table 1 and 2.

Table 1 Literature search strategy summary 2000-2013

Database (number of hits 2000-2013)					
Search term	Web of knowledge	Academic search complete ¹	Cinahl Complete ¹	Sage	Medline complete ¹
Mealtime experience + nutrition + elderly	9	4	375	983	2
Care homes + food + elderly	188	288	1365	5058	427
Care homes + mealtime experience + elderly	11	1	7692	2104	1
Geriatric + food + meals	31	79	13147	1035	1559
Care homes + diet + elderly	103	226	14177	2563	202
Care homes + nutrition + elderly	1259	731	6205	2763	593
Education + care homes + elderly	584	3582	21577	10692	1557
Education + nurses + elderly + care homes	354	3542	18423	8586	6490
Training + nurses + geriatric care homes	170	3	5966	2878	0
Training + Nutrition + elderly care	54	43	231	2229	75
Care worker + elderly care + training	92	45	362	9723	18

Table 2 Literature search strategy summary 2014-2017

Database (number of hits 2014-2017)					
Search term	Web of knowledge	Academic search complete ¹	Cinahl Complete ¹	Sage	Medline complete ¹
Mealtime experience + nutrition + elderly	7	4	8	47	5
Care homes + food + elderly	96	288	171	1991	160
Care homes + mealtime experience + elderly	9	1	9	78	4
Geriatric + food + meals	16	79	126	317	125
Care homes + diet + elderly	31	161	47	987	52
Care homes + nutrition + elderly	125	399	127	1043	135
Education + care homes + elderly	270	2030	347	4420	291
Education + nurses + elderly + care homes	143	544	97	2386	50
Training + nurses + geriatric care homes	86	601	308	891	95
Training + Nutrition + elderly care	41	21	1	910	7
Care worker + elderly care + training	54	31	7	4123	6

Note¹: Searching elderly automatically generated searches for elderly/aged/older/elder/geriatric

Searching care homes automatically generated searches for care homes/residential care/nursing care/long-term care

As with all comprehensive literature reviews, a screening process was necessary in order to ensure good quality literature was considered (Cresswell 2009). A methodical approach was taken to capture, evaluate and summarise the literature. Papers were initially screened for relevance from title and abstract and the full text paper retrieved, if the researcher felt it was potentially eligible. In order to ensure only relevant papers were retrieved, relevance criteria were established for review.

Inclusion criteria

1. English language studies as no funding was available for translation
2. Care homes refer to nursing or residential homes or long-term care facilities
3. Nutrition, mealtimes and food
4. Older people over 65 years
5. Education and training focusing on nutrition and food delivery
6. Qualitative, quantitative and mixed method studies
7. Peer reviewed
8. Full text articles available electronically or via Interlibrary loan.
9. Published 2000-2017

Exclusion criteria

1. Studies that focus entirely on dementia care
2. Studies that focus entirely on health care of older people in hospitals
3. Studies that focus entirely on nursing care in hospitals
4. Studies purely focused on undernutrition in hospitals
5. Studies focused on dysphagia
6. Non English language studies as no funding was available for translation
7. People under the age of 65 years
8. Opinion papers, editorials, case reports and commentaries as they do not focus on primary research
9. Published before 2000 or after 2017.

The abstracts of the articles were scanned for their relevance and to meet the inclusion and exclusion criteria. The literature review was conducted following the general principles published by the Centre for Reviews and Dissemination (2009) for literature reviews for public health interventions. Each research paper was read to evaluate the design, number of participants, length of intervention (if any), population, intervention/method and outcome, and how this was reported. Those research papers that were relevant and met the criteria above are summarised in Appendix 1 for the

primary appraisal (2000-2013) and Appendix 2 for the subsequent review of the literature (2014-2017). Scientific validity including goals, bias, ethics and limitations were considered. However, in order to capture a range of both qualitative and quantitative research it was necessary to review both low and high quality papers, in which quality has been conceptualised in terms of the intervention being appropriately defined as well as the integrity of the intervention (Centre for Reviews and Dissemination, 2009). Indeed, Rychetnik et al (2002) realised the challenges and complexity of public health research and identified there is a risk of missing important papers by having review criteria too tightly defined. Seminal papers are discussed in detail in the following sections of the literature review. For these the PICOS framework was applied to review (Pollock & Berge 2018):

- Clearly defined population, levels of engagement and relevant characteristics
- The complexity of the intervention, whether it has multicomponents and if the constituent parts act independently or inter-dependently. Intensity, frequency, duration and delivery are considered.
- The context of study was considered in terms of the social and political, environmental and seasonal factors.
- outcomes of the study including follow-up of outcomes as well as validity and reliability.
- Study design. Despite randomised control studies being regarded as the gold standard in research, few are conducted in public health (Centre for Reviews and Dissemination, 2009). Therefore it was important to review a full range of quantitative and qualitative studies to shape the literature review from the point of view of the older person and the mealtime experience.

3.3 Developing concepts of mealtime experience in the literature

This section will address the enjoyment of food and fluid to enable a better understanding of the holistic mealtime experience. It is recognised by Bradshaw et al. (2012) that moving into a care home can impact on a person's privacy and at the same time their dignity however, negative feelings can be associated with the experience. Qualitative research by Philpin et al. (2014) sought to understand residents' perspectives on how two different environments can impact on nutritional care. Their multi-method study involving 16 residents and 19 staff in two care homes identified person-centred care has a role in delivering food choice and ensuring food preferences are met. Food and drink are recognised to be an important part of the day (Chisholm et al. 2011). Mealtimes, other snacks as well as drinks, add structure to what can be a monotonous day living in residential care (Chan et al. 2012). They can offer comfort

and stimulation and improve quality of life, by influencing the pleasure of eating and drinking. Arvanatikas et al. (2008) reported on the Council of Europe Forum discussions that there was a lack of understanding of acceptability of food and ambience within the dining setting in care homes across Europe. From this work, it is becoming increasingly apparent that well balanced menus are important offering good choice that account for individual preferences. In addition, the mealtime environment and social experience should be considered, to ensure nutritional needs of residents are met (Chisholm et al. 2011; Du Toit & Surr 2011; Boelsma et al. 2014). The role of staff is critical in achieving a good mealtime experience (Dunn and Moore 2014). This review of the literature has scoped the key factors that affect the mealtime experience for older people living in care homes.

3.3.1 Person-centred care

Cooper et al. (2017) identified in their Delphi study that 'Promoting dignity, personhood and wellbeing' was one of the primary responsibilities of a care home nurse and choosing one's own foods is integral to this. Traditionally, residents have been seen as objects of care with staff undertaking task-led activities; entertaining residents and making decisions on their behalf (Ullrich and McCutcheon 2008; Grondaal and Aagaard 2015). Indeed, Mojsa and Chlabicz (2015) found 50% of 100 residents were observed by an independent nurse to become entirely dependent in all aspects of care, once they move into a residential facility. This included a number of personal care activities, but also contributed to reduced autonomy to eat and drink in some way. This is despite the drive towards person-centred care (Kitwood 1997). Elements of person-centred care include: equality, togetherness, appropriateness, autonomy, quality care, relationships and a supportive physical and organisational structure (Pol-Grevelink et al. 2012). Person-centred care has now become embedded in national guidance (Health and Social Care Act 2008 (Regulated Activities) Regulations 2014; NICE 2015b). More recently, Todres et al. (2009) suggested a conceptual framework for the humanisation of care which further develops person-centred care and upholds the values of being human. Their eight dimensions focus on the needs of the human, rather than getting the job done, and include 'insiderness' (living within a personal world), agency, uniqueness, togetherness, sense making, personal journey, sense of place and embodiment (making life worthwhile).

Emotion centred care was suggested by Pol-Grevelink et al. (2012), who focus on the experience of the resident that hinges on the development of positive relationships within the care home. These are often dependent on organisational management practices. On the contrary staff shortages, complex, time-consuming routines and

resistance to change by staff can be barriers to good care (Murphy 2007). The relatively new concepts of humanisation and relationship centred care are hard to understand in practice, especially when coping with staff shortages and time dependent tasks (Philpin et al. 2014). Yet, it has already been identified that food is a fundamental part of care and can contribute to quality of life by Watkinson-Powell et al. (2014). There would appear to be a lack of research to understand the association of humanisation and person-centred care whilst ensuring a good mealtime experience.

Dignity too is important in all caring relationships. It encourages individuals to take control of their own behaviour, understanding information and making choices (Franklin et al. 2006). Increased independence, greater autonomy and active participation have been shown to reduce nutritional risk and improve enjoyment of food (Carrier et al. 2009; Winterburn 2009). Acceptance by the older person of their living arrangements within the care home setting requires an inner strength, but can enable adaptation to a different way of life and maintain independence (Bradshaw et al. 2012). However, therapeutic diets and labelling residents with their nutritional needs can reduce that sense of autonomy (Ducak and Keller 2011). With respect to hydration needs, it is reported that care staff often promote hydration through a 'must do prescriptive activity' and how to reinforce positively needs further research (Godfrey et al. 2012). Person-centred care remains integral to enabling autonomy through dignified food choice and communication of food preferences. This literature demonstrates that encouraging residents to retain control of their lives is a positive outcome of person-centred care, but how to promote independence especially regarding food and drink in the residential care setting requires further investigation.

The auditing guidelines of CQC (2017a) enforce the need to consider cultural needs, preferences and ethnicity, but how this is done can impose extra challenges on staff, especially when trying to satisfy the needs of a diverse population within larger care homes (Philpin et al. 2014). Ducak and Keller (2011) used thematic analysis from interviews with nutrition managers and registered dietitians representing 40 care homes in the Canadian state of Ontario, to identify the factors influencing the menu planning process. The findings of this clearly articulated study identified the added cost of ensuring individual preference and demands are met within the business model, particularly in multicultural urban care homes. In this study, residents were reputed to regularly change their minds at the last minute, adding to complications in delivering food and drink. Care plans are useful in assisting staff to provide person-centred care but their availability to staff and how information is recorded has been questioned by Bennett et al. (2015). Their qualitative study, in Australia, based on post-positivist,

reality-oriented inquiry triangulated the findings from 14 resident files, 41 mealtime observations and 29 questionnaires completed by staff and residents to improve the rigour of the study. They identified discrepancies between practice, and resident food preferences, through lack of staff knowledge of resident's food preferences, with 51% of residents receiving meals inconsistent with their documentation. Ullrich and McCutcheon (2008) found that despite considerable verbal and non-verbal support at mealtimes being needed, this was not always recorded in care plans. Nutritional assessment, food intake and eating difficulties have been found to be poorly recorded from a range of different research studies pertaining to care homes (Porben 2006; Kumlien & Axelsson 2002; Almdal et al 2003)

Interestingly, Burger et al. (2017) identified that staff in smaller care homes (<50 beds) were more focused on person-centred care, but tended to offer less choice on a meal by meal basis, than the larger care homes (>100 beds), although staff in these homes had less knowledge of resident food satisfaction. Chang et al. (2013) agreed it is easier to deliver person-centred care in a more homelike environment when units are smaller. Carrier et al. (2009) showed in their quantitative study of 38 care home involving 395 residents, that residents living in smaller care homes had improved quality of life scores (measured by Quality of Life in Dementia (QOL-D) instrument), despite staff ratios being smaller. Possible causes being that the smaller size enabled residents to develop better relationships with a smaller number of staff. Pol-Grevelink et al. (2012) undertook a systematic review of the literature. They identified positive relationships enabled staff to deliver person-centred care more effectively as residents become better known to staff.

Dunn and Moore (2014) propose that the loss of power during ageing is socially constructed. Older residents often feel forced into accepting help from carers and lose their autonomy. Dependency was highlighted by Murphy (2007) who demonstrated autonomy and independence can be increased by improving the care environment and management. This required providing suitable information and education. Yet, dependency should not always be perceived as negative; Godfrey et al. (2012) found that those who needed assistance to drink enjoyed some positive contact with staff. Ensuring frequent consumption of fluid has its own challenges. Frequent reminders are needed to act as a prompt to drink, as sense of thirst diminishes, but ensuring adequate hydration is complex for some people due to incontinence and having to make frequent trips to the toilet (Godfrey et al. 2012). Supporting residents dignity whilst encouraging enjoyment of appetising drinks is important for staff, but how best to implement this is under researched.

Pelletier (2005) differentiated carers by proposing the concepts of social feeders, who were concerned with combining psychosocial aspects of mealtimes with nutritional needs, and carers who were simply technical feeders and wished to only ensure nutritional needs were met. Simmons et al. (2002) used observations in ten residential homes to score care quality. They found that social assistance to eat and drink is as important as physical assistance in care homes. Yet, Bennett et al. (2015), using observation methods of 14 residents over 41 mealtimes, proved that staff – resident social interaction was minimal in the residential care homes of their study. Staff tended to be task-focused rather than trying to improve mealtime satisfaction and enjoyment. Despite documentation of residents' preferences, staff were only observed to follow these 51% of the time. Staff varied by how they defined the capability of residents to feed themselves and their effectivity is influenced by availability of staff and particularly staff shortages (Pearson et al. 2003). Simmons et al. (2001) recognised from their quantitative intervention study that feeding assistance by staff in care homes often fails to support independence. They recommended management strategies are needed to effectively utilise staff and ensure they are trained to assist a range of different conditions, but how this can be done effectively needs investigation.

Staff empathy with residents is important; if they are only task-focused at mealtimes residents can feel vulnerable. Health and social care professionals have often been trained in the traditional biomedical model, where mealtimes are one more task that needs to be completed (Sydner and Fjellstrom 2005). This study in Sweden showed that those older people most at risk from undernutrition were frail and least able to join social dining due to reduced mobility. Individual psychosocial needs were not being met, as they were unable to access social dining provision. Residents were found to be subservient to care staff and passive recipients of care. However, the evidence suggests that mealtimes should be driven by the preferences and wishes of the residents, and encouraging them to maintain autonomy can positively impact on food and fluid intake.

3.3.2 Food-service

Care homes have to cater for all residents consequently meeting everyone's needs all of the time can be a challenge (Hartman-Petrycka et al. 2015; Watkins et al. 2017a). Food served is not always regarded as being of good quality. A Dutch study by Boelsma et al. (2014) interviewed residents who revealed dissatisfaction of the food quality on offer. These residents wanted fresh ingredients and assurances about the nutritional quality of the food. The challenge of meeting the needs of residents is highlighted by Grondaal and Aagaard (2015), who showed that no residents, out of the

participating 33 care homes in Norway, were involved in any form of menu planning, with only ten per cent of residents taking part in any daily activity towards meal or dining room preparation, despite these residents, in their study, expressing that they would be interested to be involved. Crogan et al. (2015) successfully introduced a pictorial rating scale based on food satisfaction questionnaire for residents with reduced cognitive status, to evaluate meals in an effort to deliver preferred foods. Any item that was rated poorly was removed from the menu and another item introduced, that had been suggested by the residents committee. They found that scores for both enjoying food service and providing food service increased.

The guidance published by the FSA (2007) entitled '*Food served to older people in residential care*' focused on nutrient requirements and advice for serving a balanced diet based on the then Eatwell Plate (the UK Government healthy eating tool to achieve a balanced diet). Meeting this guidance is not without its challenges in the residential care setting. Bamford et al. (2012) reported how dietitians worked with five different care homes, in the North East of England, to redevelop menus to meet the FSA healthy eating nutritional guidelines. The dietitians led the reformulation of menus, but despite working with chefs, there was a lack of commitment in all care homes to introduce the modified menus. This was mainly due to difficulties in engaging staff to understand the meaning of the work, as they considered the focus on nutrient intake to be unimportant in comparison to the food preferences and choice for residents. Interestingly, a similar study by Bernoth et al. (2014) in Australia, where dietitians developed menus of nutritional quality, showed food served often underperformed and was regarded as poor by residents. Van Damme et al. (2016) developed a set of quality indicators by which food-service in care homes in Belgium could be monitored. Key points, their team of nurses and a food-service expert identified were knowledge of individual food preferences, as well as highlighting the importance of the chef and kitchen team to prepare food from recipes suitable for older residents. Interestingly, Joseffson et al. (2017) also reviewed a different range of food-service quality indicators in care homes in Sweden. They found meals cooked on site with guidance from a food-service specialist dietitian (rather than community/clinical dietitian) helped to improve resident satisfaction of meals.

These studies highlight the importance of onsite, freshly prepared food by kitchen staff, who recognise older residents' preferences. How to offer choice remains less understood. Pouyet et al. (2015) undertook a paired comparison sensory experiment on older adults living in residential care homes. They compared a food that had been flavour enhanced with a control food. Liking of food directly correlated with food intake.

Yet, it is important to understand how to enhance the mealtime experience in the collective context. The traditional model in the UK of two choices per meal (Watkins et al. 2017a) means many residents have limited choice once food preferences have been accounted for. Burgher et al. (2017) undertook a questionnaire-based study that had responses from five per cent of German care homes. This study ascertained that menus were often on a four to six weekly cycle and like Watkins et al. (2017a), they also found two standard choices for each mealtime was the norm in 90% of the care homes. However, it was less certain what choice was available for those on therapeutic diets, such as diabetes and texture modified. The benefits of increased food choice are questioned by Kenkmann et al. (2010). They increased mealtime choice from two options to more than three at all mealtimes in their 2 year mixed method intervention study involving 3 intervention and 3 control care homes in the East of England. Additionally, residents were allowed to make their final choice of food at mealtimes once it appeared on display, at point of delivery. Interestingly, there was no significant gain in weight ($p=0.49$) for all 105 participants and no statistical change in recorded enjoyment of food ($p=0.237$). They attributed this to it being a small study and differences in individual residents health and wellbeing. Previous work by Carrier et al. (2009) has focused on frequent revision of menus which can act as a stimulus for appetite and improve quality of life, which was recorded qualitatively through interviews. Chisholm et al. (2011) showed that longer menu cycles can reduce boredom with many care homes in their study in New Zealand repeating menus four – six weekly. Although greater variety in residents' diets correlated with decreased risk of undernutrition, many of these menus did not offer a choice and only those residents who disliked particular foods were offered an alternative. Yet, Abbey et al. (2015) showed choice remained limited for many residents living in 161 long-term care facilities in Australia. Only 36% of these residential care facilities offered planned menu alternatives in their study and for those residents consuming texture modified foods, choice was not aligned to the main menu and often limited to one item. This study confirmed how the move into a care home often represents a decrease in autonomy for an individual, especially when mealtimes are set, menus are limited and residents have limited food choice. Taken together, these studies demonstrate how increasing menu cycles and number of choices on offer per meal may enhance enjoyment of food and could impact on the mealtime experience overall. However, there remains a lack of evidence of how food choice is delivered in UK care homes, especially how diverse food and drink preferences of residents, menu cycles and options are accounted for.

Studies from various countries differ in their findings of how food should be presented to residents at mealtimes. The literature cited many examples of how pre plated meals were used to deliver residents food choice. One of the reasons for this approach could be to ease delivery of specific food preferences. Chisholm et al. (2011), in their study in New Zealand, found many meals pre plated with only bread and condiments being offered for residents to freely help themselves. Chan et al. (2012), in their small Canadian study, report on the use of pre plated trays to serve food to residents, despite demonstrating the poor visual and homely appeal of presenting the food this way using data from food satisfaction scores . Conversely, Carrier et al. (2009) showed pre-plated meals was related to improved quality of life over bulk food-service for residents in Canada. Crogan et al. (2015) used a steam table to serve food directly to residents from bulk trays in the dining room. This improved the quality of food intake and micronutrient status of residents, but not total energy intake and quantity consumed by the American residents in their study. Although participants had some form of cognitive impairment; they retained the capacity to make their own food choices. This freedom to make food choice at the point of delivery has been shown by Bhat et al. (2016) to positively increase food intake of residents who were independently able to make their own food choices. Their study of 78 residents showed an increase in percent of food intake from 61% to 77% over a 5 month period.

Chan et al. (2012) introduced a bistro style area in a single care home in Edmonton, Canada. Here, food could be prepared in view of residents, stimulating hunger and food acceptability both visually and aromatically. Wide availability of meals throughout the day, delivery of snack and finger food, and full family style serving at the meal table have all been shown to result in increased energy intake and weight gain by Abbott et al. (2013). Bhat et al. (2016) found making snacks and drinks freely available on request improved food-service enjoyment measured through a Likert scale resident meal satisfaction survey. Lorefalt et al. (2011) suggest that tailoring meals and snacks to meet the nutritional needs of residents can reduce the risk of undernutrition. They found body weight can increase if high energy and protein snacks and meals are offered to those who have been screened and identified at risk of undernutrition. Training programmes helped to support staff understand how to offer individualised person-centred meals. Conversely, Simmons et al. (2010) reported from their six week intervention study involving 63 older residents in care homes in California that snacks consumed might be to the detriment of energy consumed at main meals. The intervention group who ate snacks between meals significantly increased their mean energy intake by 163 kcal but mealtime energy intake decreased by 96 kcal therefore

total daily energy intake did not change significantly. Simmons et al. (2010) undertook a cost-effectiveness analysis to highlight there were significant costs associated with this interventions equating to approximated 1 US cent per calorie increase intake.

Carrier et al. (2009) showed resident autonomy improves if they have a variety of foods available night and day, irrespective of whether this is provided by the care home or family and friends. They highlighted that if residents have no visitors, care homes have a greater responsibility to provide snacks and food. Dahl-Eide et al. (2012) showed the an overnight fast of over 11 hours, where no food and drink are available, resulted in 35.6% of residents in middle or high risk of undernutrition and 20% were underweight with BMI < 20 kg/m² measured using the 'MUST'. Chisholme et al (2011) identified 31 of the participating 50 care homes exceeded the New Zealand recommendations of 14 hours between supper and breakfast. The Swedish National Food Administration, however, recommend residents should be without food for no more than 11 hours (Dahl-Eide et al 2012), and the Food Standards Agency guidance (FSA 2007) previously recommended a night time snack in their example menus. However, no recommendations currently exist in the UK for when to serve meals and snacks and how to limit the overnight fast.

Burgher et al. (2017) found only one-third of care homes served the German recommendations of at least three portions of vegetables to residents, although the reasons accounted for this observation were not studied. One possibility could be because of difficulties of chewing fruit and vegetables due to ill-fitting dentures or masticatory dysfunction (Chapman 2006). Maitre et al. (2014) showed food selectivity was directly related to chewing difficulties, although their study showed no direct trends in specific foods contributing to 'fussiness'. Watkins et al. (2017a) extended this selectivity to resident's often choosing traditional, culturally-familiar foods. However, Divert et al. (2015), in their study in France, demonstrated that increasing variety from one large to two or three smaller distinct portions of vegetables on the plate, improves overall sensory appeal and total food intake, but not necessarily vegetable consumption. Van der Meij et al. (2015) conducted research that included a food preference test for 349 older people, aged over 65 years, whereby participants were asked to choose the picture of food that most wanted to eat from a choice of two. They found those with poor appetites had a higher preference for foods with greater variation in colour and texture. This leads to the supposition that vegetables could have an unobvious, but important role to play in total food consumption, despite the challenges

that exist in encouraging residents to eat vegetables and fruit. However, there appears to be limited research in how to optimise food presentation to promote all the senses.

Interestingly, Mingioni et al. (2016) found 71 UK-based older adults were less likely to eat vegetables than their European peers (n=334), but more likely to eat fruit, particularly in desserts. They found older adults in their study in the Netherlands to have a decreased liking for dairy products. This conflicts with Hartman-Petrycka et al. (2015), who conducted a Polish study, which found dairy-based desserts popular, demonstrating how cultural differences can influence food choice. Divert et al. (2015) found that offering foods with more luxurious names, to older care residents, did not increase food intake. This could be because the name was not recognised or because it was too far removed from expectations.

Drinks are an important aspect of mealtimes, although studies have focused on identifying residents who are dehydrated rather than prevention of dehydration (Ferry 2005; Oates & Price 2017). Hendry and Ogden (2016) argue that all residents should be regarded as being at risk, with strategies such as fluid charts, constant reminding to drink, and incorporating reminders into the medication regime to increase fluid intake. The accuracy of fluid charts is challenged by Oates and Price (2017) and Hooper et al. (2016) who highlight how fluid charts are not always acted on if fluid intake falls below policy targets. The reasons for this are diverse depending on organisation and care home. It is proposed by Hooper et al. (2016) that hydration should be encouraged through routine and habit. One group who are often omitted from this regime are those more able residents in a care home who are forgotten by staff (Jimoh et al. 2015). The effect that fluid choice and availability might have on fluid intake in residents remains unknown and requires further investigation.

In a study by Godfrey et al. (2012) fluid delivery is regarded as problematic, with cold drinks often being served at room temperature, with consequent negative impact on appeal, as well as drinks not always being freely available. In addition, it was recognised jugs and cups should be in easy reach as they were not always utilised. Their study, which included interviews with health and social care staff as well as residents in one care home found that the older person often finds drinking a functional rather than a pleasurable experience. Offering a wide variety of drinks and high water content foods can help limit the effects of dehydration (Ferry 2005), although there is some conflict in the literature about the effectiveness of drinks containing caffeine, due to their diuretic effect (Begum & Johnson 2010). Kenkman et al. (2010) showed rates of dehydration were reduced by direct access to hot drinks machines for residents and visitors, as well as frequent drinks offered by staff at key points of the day. From these

studies, questions arise as to how best to prevent dehydration, including what prompts are needed, drink availability and whether residents need further assistance to drink. How to promote good hydration is a challenge that needs further research, and no single study has considered the influence of drinks on the mealtime experience as a whole.

3.3.3 Sensory appeal

Eating for pleasure can increase food intake, but changes in taste perception and sensitivity negatively influences dietary preferences of older people, and consequently, how much they may consume (Mingioni et al. 2016). A key physiological consequence of ageing is the deterioration of all senses, further intensified by the impact of medication (Toffanello et al. 2013). Enjoyment becomes less as senses diminish: food is reported to not taste or smell as good with consequent decline in appetite (Chisholm et al. 2011). Difficulties with eyesight can reduce the appeal further (Mahadevan et al. 2013). Interestingly, it is hypothesised that the four basic tastes do not decrease in intensity uniformly with age. Hartman-Petrycka et al. (2015) investigated the sensory appeal of a number of foods, and found that the older person living in residential care had a distinct preference for desserts high in fat and sugar. Not only are these easy to consume, with little chewing involved, but the sweet sugars are more easily digested and can stimulate a feeling of satisfaction due to endorphin secretion. Sweet taste sensitivity does not decline with age, unlike the other four basic tastes (Yamauchi et al. 2002; Nordin et al. 2003). Therefore, desserts may remain foods that have not led to deterioration in the eating experience. Some types of medication can cause complaints such as loss of taste, metallic tastes and altered taste (Toffanello et al. 2013). The way medication interacts with the senses depends on the level of polypharmacy and individual drugs, but Neuman et al. (2016) have shown they can negatively impact on food intake, and influence the enjoyment of the mealtime experience. Toffanello et al. (2013) go on to suggest gustatory function can be further impacted by disease, depression, as well as functional impairment. These could all lead to reduced enjoyment and changed perception of food and beverages and consequently, reduced intake leading to undernutrition.

The physical and sensory impact of meals can be manipulated to increase satisfaction and compensate for decreased chemosensory function. Increasing the intensity of different flavour, odour and taste compounds can boost the sensory appeal of foods. Various quantitative studies to optimise sensory appeal have been undertaken. Appleton (2009) undertook a small experimental study with 29 older adults over the age of 65 years. This study did not specifically focus on underweight adults, and was

limited to four meals on separate occasions in five different care homes. Participants ate two meals with sauce and two separate meals without sauce. Quantitative analysis showed adding sauces to the main course of older people's meals increased energy consumption by a mean of 50kJ per meal but protein intake changed insignificantly. She hypothesised that the semi solid state of the sauce aided gastro intestinal secretions, as the food was easier to chew, enhancing appetite and consequently increased consumption.

There is evidence that umami sensitivity, the fifth basic taste, describing savoury characteristics of foods is directly affected by nutritional status, whereby those who are undernourished prefer foods with a higher concentration of monosodium glutamate (Nordin et al. 2003). Various studies have used flavour enhancers including monosodium glutamate (MSG), but with varying results. Essed et al. (2007) conducted a 16 week quantitative single blind randomized parallel study with 83 adults with a mean age of 85 years. They separated the participants into four groups and presented them with meals containing: flavourless powder (control), MSG, flavour enhanced (nine different meat flavours) and MSG plus flavour enhanced meals. Interestingly, they found that none of the groups increased food intake or weight. Although, they hypothesised that both the MSG and flavour levels were not at a sufficiently high enough level to impact the senses of the 85+ year older participants. A later single blind within subject cross-over study, by the same researchers, found twice the amount of MSG was required to have a noticeable effect on flavour for both mashed potato and meat based meals but had no effect on the stronger tasting spinach (Essed et al. 2009). Yet despite optimising concentrations of these flavour enhancers, they were still not shown to increase energy intake of the older participants during the four week study. Boczeko and McKeon (2010) found that sprinkling seasonings, such as chilli flakes, Italian herbs and a no salt mixed seasoning over savoury foods, improved meal satisfaction (measured by a meal satisfaction questionnaire) but not weight gain of participating residents. Dermiki et al. (2015) added MSG to soups in a randomized single blind within-subject trial and demonstrated an increase in food intake, although admitted a consequent increase in salt content could have been attributed to the studies success. Lemon, baked garlic, salt and pepper were used to enhance the flavour of food and increased food liking scores, using paired comparison and sequential monadic tests, in a study by Pouyet et al. (2015). This increasing knowledge of how to manipulate food recipes to enhance hedonic appeal is aimed at chefs, kitchen staff, carers and health professionals, when trying to improve the mealtime experience for older people. Residents, too, can be encouraged to customise foods to suit their needs. Divert et al. (2015) allowed residents to freely add

a wide range of condiments (salt, pepper, butter, vinaigrette, mayonnaise, tomato sauce, garlic, shallot, parsley and lemon) and showed increased food enjoyment scores. Together, these studies show the effect of flavour enhancers on appetite and food intake are complex, but their addition can contribute to increased enjoyment scores of the accompanying meat and fish dishes.

3.3.4 Environmental factors

A key contributor to institutional living is the impact of the eating and living environment, which should be comforting and supportive for residents (Du Toit & Surr 2011). Consideration is required to reduce the impact of the institutional feel of the dining environment in the same way as ensuring residents own rooms are personalised. An institutional atmosphere can adversely influence the enjoyment of food and drink, regardless of the homes' excellence (Chisholm et al. 2011). Chan et al. (2012) and Abbott et al. (2013) recommend creating a homely identity of the dining room, through use of warm colours, appropriate use of background music and good quality china and cutlery. This is further endorsed by Kenkmann et al. (2010), who advocated dining rooms should not be over crowded, to allow for free movement, although as previously highlighted their study did not show statistically significant improvements on either food intake or resident enjoyment of meals. Nijs et al. (2006) and Mathey et al. (2001) undertook 6 and 12 month intervention studies respectively, in residential homes in the Netherlands. These included family style dining with quality table dressings (table cloths, crockery, glassware), with staff joining groups of residents at mealtimes (Nijs et al. 2006). Mathey et al (2001) included changes to the physical environment, as well as the way food was delivered and nursing focus at mealtimes in their intervention. They found body weight (3.3kg $p < 0.05$) and mean energy intake (200 kcal) increased significantly in the intervention group, but not in the control group, although number of participants who completed the trial were small with only 12 in the intervention group and 10 in the control group. Nijs et al. (2006) undertook an intervention with a greater number of participants ($n=178$) in five care homes in the Netherlands. They saw mean body weight rise by 1.5kg and mean daily energy intake rise by 100kcal per day of the intervention group over the 6 month trial, although this was not statistically significant between the two groups. Conversely, eating food in residents' own bedrooms and dining rooms with institution based features such as plastic plates and cutlery, poor quality décor and lighting were positively associated with the risk of being undernourished (Carrier et al. 2007)

Playing background music positively influences the atmosphere in commercial restaurants due to its effects on mood, reducing anxiety and relieving depression,

although its effect within the care home environment is less well known (Edwards & Gustafsson 2008). Distracting noises, such as loud television noises and dominant staff conversations can have a negative effect on food intake (Ulrich et al. 2011). In addition, Wong et al. (2008) found that playing music at mealtimes to 28 participants on a single ward over 12 weeks, as part of a longer intervention study in New Zealand, helped to calm the severely cognitively impaired as well as increase food consumption by a mean of 129.2kcal/day. However, there would appear to be little research in the UK to understand if music and distracting noises affect residents' choice to eat in the dining room or their own rooms.

Reducing the institutionalisation of care homes can help increase the identity of 'home' for the resident (Van Hoof et al. 2016). Yet, Harnett and Jonson (2017) discuss the challenges for care homes to do this, as they sit on the continuum of medical institution, home setting and hotel. A number of frameworks for free living older people have been proposed, to help capture the complex meaning of home (Mallet 2004; Oswald et al. 2006; Molony 2010). Life course experience can affect what home means, but to feel a level of homeliness is an expression of self (Oswald et al. 2006; Molony 2010). In turn, home means autonomy and being able to control what you are doing and what is being done for you (Dahlin-Ivanoff et al. 2007). Positive feelings about home have a direct link to health and well-being (Fänge & Dahlin-Ivanoff 2009) and could directly impact the meal experience in care homes.

There has been little research to understand how furniture and other decoration in communal dining rooms in care homes can increase homeliness and improve the mealtime experience. Phenice and Grifforre (2013) advocate that being able to see one's own possessions around in an unfamiliar environment, such as a care home will help residents to adapt and minimise the loss of independence associated with entering the care home. Indeed, a person's belongings and the environment were shown by Dahlin-Ivanoff et al. (2007) and Shenk et al. (2004) to provide a sense of self and homeliness for individuals living in their own homes. This can be achieved in residents' rooms in care homes by allowing them to bring a few of their own furnishings, ornaments and other effects into their own rooms. It is more difficult in communal areas to achieve that sense of home, as the feeling of home is an individualised concept (Molony et al. 2011). Moloney et al (2011) suggest it is one of the reasons people will struggle to continue to live at home, rather than move into an institution. The difficulties highlighted by Edvardsson (2008) of how it is not suitable to place personal possessions of individuals in communal areas in case they go missing, make it more challenging to create the effect of home in a dining room. The use of

items that are familiar to residents and that typify a 'normal' home help to create a feeling of calmness and security, but how this is done in communal areas and in particular the dining room and the consequent impact on the mealtime experience is unknown. Molony et al. (2011) found that smaller care homes and family-style dining, around tables increased the feeling of belonging, and yet Kofod and Birkemose (2004) found a homely meal situation can be difficult to achieve. There would appear to be little UK based evidence of what can contribute to a homely dining environment in care homes and together the evidence suggests that care homes are challenged to establish the context of their identity at mealtimes.

Nakrem et al. (2011) found that residents are willing to regard their rooms as 'home' and recognise the communal areas are for group living. If they want safety and solitude, they can go to their room, and social activity can be found in the public areas (Bradshaw et al. 2012). Conversely, Lee et al. (2009), argue from their systematic review of the literature involving eighteen studies, that environmental modification to promote a home with physical and social ambience in communal areas can improve quality of life in care homes. The studies cited by Lee et al. (2009) demonstrate that the dining room can influence the mealtime experience, but further study is needed to identify the barriers and enablers on how it is used and what encourages food and drink consumption.

Despite work by the Kings Fund (2014) and Design Council (2018) on care home design, there remains no evidence on how best to position a kitchen in the care home. Autonomy and social interaction can be enhanced in care homes by introducing open style kitchens, coffee machines and fridges into living areas, where hot drinks and snacks can be prepared by staff, residents and family members (Hung et al. 2016). The accessibility of the smell of food during food preparation can enhance appetite for residents (Van Hoof et al. 2016). In their study, the open plan kitchen allowed residents to be in the proximity of food being prepared, which contributed to the identity of 'home' for residents. This demonstrated that the impact of the positioning of the kitchen could influence the mealtime experience. Chan et al. (2012) report how food served at incorrect temperatures can impact on enjoyment, identifying the further the kitchen is away from the dining room and where residents live, the more likely there are to be logistical issues of getting the food to residents freshly prepared and hot.

3.3.5 Social interaction

Social interaction within the care home setting was shown by Hubbard et al. (2003), in their ethnographic study, to be delivered often in isolated pockets of organised activity

outside of mealtimes. Yet, mealtimes were shown by Crogan et al. (2004), to be an opportunity to create relationships and friendship networks to augment social contact. The older person is more likely to enjoy food when experiencing the desired social environment with good ambience (Koehler and Leonhaeuser 2008; Boelsma et al. 2014). Quality of life was shown to increase by Carrier et al. (2009), as the number of social companions at mealtimes increased. Vesnaver and Keller (2011) recognised how eating is a social activity embedded in the culture and lifestyle of the person. These authors identified the link between general health, and social interaction through integration, support networks and companionship from their review of the literature. Food has symbolic meaning for all and can bring people together through shared identity and trigger memories (Boelsma et al. 2014; Bonifas et al. 2014). Yet, it takes time to develop social relationships, and requires effort from both residents and staff. Resident behaviour can impact on life in a care home as the phenomenological study by Palacios-Cena et al. (2013) showed. This study, in one care home in Spain, aimed to identify the lived mealtime experience of 26 nursing home residents. They identified how seating allocation was an important component of mealtimes and in particular found the overall negative experiences of behavioural abnormalities of residents. Relationships were often identified as being superficial and transient due to the deteriorating health of residents (Bonifas et al. 2014). Residents can subsequently experience that loss, and this can impact on where they wish to eat their meals and the overall mealtime experience.

Keller et al (2013) validated the Mealtime Social Interaction Measure for Long-Term Care (MSILTC) tool to quantify the type and amount of interactions at mealtimes as well as the length of meals. They established, as part of the validation process, that communal areas can promote socialisation, although conversation can be limited and residents should be allowed to eat alone, if they wish. The difficult concept of the communal physical environment being homely is discussed elsewhere. Yet, Cloutier-Fisher and Harvey (2009) argue that being part of a social community can in itself lead to a level of homeliness, although their study was primarily focused on free living older individuals who had moved into a new area, it did include a few living in residential care homes. Family style dining and carers eating and drinking with residents at tables were shown by Salva et al. (2009) and Godfrey et al. (2012) the psychosocial aspects of the mealtime experience. This sharing can contribute to increased participation and developing joint experiences that help to build relationships (Bradshaw et al. 2012). Interestingly, Barnes et al. (2013) observed that those eating in this type of environment were more independent and doing things for themselves, which enabled

staff to respond to requests and focus on those with complex geriatric syndrome challenges. They also observed the increase in conversation which focused on serving the food. Interviews with staff in the study by Godfrey et al. (2012) identified that staff who took the time to drink with residents improved social contact, which was appreciated by residents. However, these researchers also observed staff did not always take this opportunity showing a conflict between stated and actual practice of staff. Other studies have shown how the presence of staff, family members and other visitors can influence social interaction positively (Nijs et al. 2006; Kenkmann et al. 2010). Thomas et al. (2013) showed how visitors were important for residents, as they can encounter isolation once entering the care setting. Yet, there has been little research to understand how to incorporate visitors into the food and drink experience. In a study by Durkin et al. (2014), a small number of visitors (four per cent of mealtimes observed) were shown to assist residents in mealtimes more effectively than staff however this did not result in increased food intake.

Boelsma et al. (2014) undertook a qualitative study that showed improved quality of care by enabling independence. Communication encouraged increased autonomy of residents and helped them settle into the community of the care home. Mealtimes were a key facilitator to foster socialisation and increase the activity of daily living. Hoffman (2008) reports in his case study that encouraging people to be more involved with different aspects of daily living as far as their individual circumstances and health conditions will allow. He observed that socialisation had a positive impact on appetite, as residents were perceived to increase their food intake, although this qualitative study did not record actual changes in quantity of food eaten. Previous research has shown how mealtimes provide structure to the day (Nijs et al. 2006) and a sense of normality (Pearson et al. 2003).

Andrew and Ritchie (2017) undertook a secondary analysis of their original qualitative study, reviewing the role of a café in the reception area of a residential care home. The café offered a range of drinks and foods, enabling residents to choose who they went with, and the type of food and drink they chose. This increased their perceptions of autonomy, as well as an opportunity of maintaining a sense of identity, through their ability to continue entertaining visitors. The authors bring the importance of 'home' into their discussion, and how residents are able to maintain a sense of community belonging. They highlight how the café can increase the activity of daily living for residents however, they did not investigate how the impact on quantity and quality of food and drink consumed. Winterburn (2009) showed active participation in food provision, such as growing vegetables and herbs, and special meals such as

takeaways, can increase autonomy and independence for residents in four care homes in Northern England.

A Canadian study of 395 residents in 38 care homes showed that choice of dining companion and where to eat were important aspects of quality of life (Carrier et al. 2009). Curle and Keller (2010) clearly identified their observational qualitative method in one care home in Ontario, Canada. These researchers observed 63 mealtimes over a 14 day period and found the positioning of residents in the dining room (or elsewhere) was observed to impact on mealtime enjoyment and consequently dietary intake. This finding is supported by Grondaal and Aargard (2015), who showed that residents were not always able to sit where they wished, leading to a negative mealtime experience. Reimer and Keller (2009) identified from their review of the literature that grouping residents can encourage social interaction, but it should be recognised that not all residents will want to socialise. Residents' quality of life is reduced if they feel compelled to eat with people they do not like, or have nothing in common with. Indeed, Bonifas et al. (2014) found that not all social interaction was positive with the disruptive nature of some residents causing frustration and stress to others, but the impact of this on the mealtime experience was not identified. Grouping residents based on their medical and therapeutic nutritional diagnosis (for example dysphagia, feed assistance) can mean friends are unable to sit with each other, yet despite this, they will not want to break the 'rules' and ask to move (Dunn & Moore 2014). Communication can be limited between residents, especially for those with verbal or hearing incapacity (Hubbard et al. 2003), and other physical frailty issues can impact on the ability to socialise. Although gestures such as body movement, eye contact and smiling from other residents can assist communication (Curle and Keller 2010). It is unknown whether staff are aware of these interactions and their importance. Opportunities need to be explored further on how to encourage residents to eat and drink in a more relaxed and social style.

Mattson and Gallant (2012) focused on increasing the appeal of breakfast by serving it in a central location. They found that residents enjoyed the experience, and nursing staff benefitted because residents tended to eat in the dining room and needed less care in their rooms. This eating in the dining room has been shown by Bennett et al. (2015) to show residents were more likely to receive good nutritional care and less likely to experience social isolation. Bernoth et al. (2014) found the residents who ate in their own room increased overall staff workload and reduced staffing levels in the dining room. Yet, Bonifas et al. (2014) in their North American study identified how

staff positively encouraged residents to eat in their own rooms, mainly due to the reliance of residents on staff supporting them moving into the dining room, thereby increasing workload for staff. Interestingly, Philpin et al. (2011) report that staff recognised that some residents do not always want to eat in the dining room although felt it should not be encouraged. Why residents choose to eat in their own rooms is not fully understood (Philpin et al. 2011; Vesnaver and Keller 2011; Keller et al. 2013).

3.3.6 Staff responsibility

All care staff, including managers and care workers have a responsibility to balance their relationship with residents, whilst providing person-centred care at mealtimes (Dunn & Moore 2014). Yet, dependency of residents means their autonomy and independence can be forgotten by staff as they focus their mealtime care on the tasks that need to be undertaken rather than emphasising person-centred care (Carrier et al. 2009). This is supported by a recent CQC report which shows care varies. In the UK only two per cent of adult social care residential homes deliver outstanding care in inspections, with 20% of care homes requiring improvement across all essential standards (CQC 2017b). However, substandard care is preventable (Chang et al. 2015).

The need for staff interaction with residents is undoubtedly important to support and make conversation (Curle and Keller 2010) but is under researched. Staff knowledge is required to facilitate mealtimes and care plans are essential to ensure residents' information is communicated to all staff (Merrell et al. 2012). It is clear that in some situations staff are forced into a position of making decisions on behalf of residents (Merrell et al. 2012). The nature of this decision-making can impact on residents' autonomy (Carrier et al. 2009; Winterburn 2009). The complex relationship on the mealtime experience between old age, ill health, medication and food choice is not fully understood (Ducak and Keller 2011; Toffanello et al. 2013; Neuman et al. 2016). Chan et al. (2012) recommend that all care staff, regardless of their job role, should come together at mealtimes to encourage food and drink consumption in a variety of ways.

Staff relationships with residents can be affected by their empathy, social skills and ability to offer dignified care, and these can impact on quality of life of residents (Bradshaw et al. 2012; Dahlin-Ivanoff et al. 2007b). Bangerter et al. (2016) reported that staff who show respect have a keen interest in the residents and take time to talk to them. Maintaining personal relationships with residents can be difficult if they exhibit challenging behaviour or complain continuously, and this can lead to social and emotional detachment between staff and residents (Dunn and Moore 2014). Tensions

can exist when residents complain about food and drink - denying they have asked for particular items - which negatively affects person-centred care (Murphy 2007). Barriers to communication between care staff and older residents may cause a break down in the nutritional care provided and the enjoyment of the mealtime experience (Dunn and Moore 2014). Harnett and Jonson (2017) highlight the divergence of opinion of staff who report to deliver person-centred care at mealtimes in their study in two care homes in Sweden. However, in reality staff were shown to offer food more akin to institutional catering, where residents have little input into menu design. They suggest carers use an 'institutional script' when delivering meals to residents, using excuses that indicate not everyone's needs can be met and treating residents in a subordinate manner. Further research is needed to review what staff attitudes are based on, and how these align to the older generation they care for. Further understanding of the relationship between carers and residents and how this can positively impact on the mealtime experience requires further research.

Supporting a number of different residents at one time during mealtimes does not necessarily detract from the experience for residents, but requires training for staff to be able to do this successfully in order to enhance food and drink intake (Simmons et al. 2002). Additionally, Dunn and Moore (2014) found that some staff will group residents according to their therapeutic dietary needs which can negatively impact on their sense of autonomy and might detract from the delivery of person-centred care. For example, they found that if support is needed to help residents eat and drink, due to the need to account for health and safety legislation, it tends to be task-driven and focused towards managing risk, rather than focusing on the individual and their support needs. Simmons and Schnelle (2006) report that to meet American best practice guidelines of fully assisting residents to eat and drink, including time to give encouragement through various cueing methods is 36-40 minutes. Their observational study which involved 91 residents in 6 care homes in America showed it was difficult to meet these requirements due to staff not knowing what was required. They recommended carers are trained to give effective support, as well as organised in a timely manner to deliver good assistive feeding. Optimising staff levels was shown to help increase attention of staff at mealtimes in a study by Simmons et al. (2011). Their study of 200 residents in two long term stay care homes in America identified staff gave an average of 11 minutes more time to those who had been clearly identified as high risk of consuming insufficient food.

Resistance to change by staff was found to be a barrier to delivering a good mealtime experience by Murphy et al. (2007) in care homes in Ireland. They recommend the

development of change management concepts within staff training to facilitate this. Managing anger, staff health and often being short staffed were highlighted by Dunn & Moore (2014) to cause conflict with residents and difficulties providing person-centred nutritional care. Pol-Grevelink et al. (2012) identified emotional exhaustion of staff is likely to be less when working in smaller scale care environments, which might help positive relationships to develop. Ritualised practices make it difficult to provide person-centred nutritional care (Ericson-Lidman et al. 2014). Rigid routines and low staff levels can exacerbate this further (Kenkman et al. 2010). Health and safety legislation and medical models can cause barriers to person-centred care (Dunn & Moore 2014). Van Hoof et al. (2016) similarly questioned how the values and standards of residents should be recognised, not only by care staff, but by the regulating authorities responsible for social care. Some residents appreciated the independence that was offered by being able to be involved with food preparation, although staff raised the challenges of food safety regulations, limiting the role residents can have. They highlighted challenges that were encountered where staff often had to remove residents from the kitchen area for safety reasons. The authors raised the question of how barriers can be established if legislative organisations do not allow participation in mealtime preparation to enhance quality of life and food consumption. Autonomy is often challenged in care homes, when residents have to rely on others to help with their daily living activity, and institutional care attitudes of staff can exacerbate dependence (Dunn & Moore 2014).

Leydon & Dahl (2008) recommend an integrated, systematic approach to staff training, that includes all staff, but they do not identify what that should include. Well educated staff can drive the social interaction and sense of community necessary to optimise enjoyment and food intake (Curle and Keller 2010). A review of literature by Liu et al. (2014) showed that education programmes for care staff around the world have focused on boosting food and nutrient intake through food fortification, nutritional supplementation with oral nutrition supplements (ONS) and undernutrition screening using MUST. Wikby et al. (2009) undertook a pre- and post-test, quasi experimental study that introduced a blended programme, whereby 71 staff were issued with a training booklet and supported each other in peer study circles. The 62 residents (mean age 85 years) in the three care homes that were involved with this intervention showed a small increase in mean body weight of 2.4kg over four months although no significant difference in motor function as opposed to the control group who showed a slight decline in weight. Westergren et al. (2009) too, showed the benefit of staff study circles to improve staff knowledge on the provision of protein and energy enriched foods for residents at risk of undernutrition in another pre and post-intervention study.

Those staff who had taken part in the study circles identified 12.6% of residents to receive enriched foods as opposed to 6.1% in the control group. Suominen et al. (2007) successfully implemented a range of different techniques including class based lectures, team work and individual studying over a 6 month intervention period. This intervention expanded knowledge of the 28 participating nurses on how to improve energy intake of residents. Following the intervention the residents, whose mean age was 85 years, were identified to show a statistically significant increase in mean energy intake by 257kcal. Chang and Lin (2005) undertook a quasi-experimental study to introduce a range of learning techniques to facilitate mealtimes into two convenience sampled, long term care facilities in Taiwan. The treatment group of 31 care assistants received three hours of class-based education followed by one hour experiential hands on learning in the care home. Feeding behaviour was noted before and after the training of both the treatment and control group (n=36). There was an increase in mean eating time, from 12.2 to 14.4 minutes allowed for residents and greater understanding of how to identify when assistance at mealtimes was needed, although no increase in food intake. These studies show that by increasing staff knowledge, it is possible to have a positive impact on residents' food and drink intake, but it is difficult to determine which pedagogy works best for a diverse UK workforce.

Merrell et al. (2012), in their study in South Wales, confirmed a lack of research in the understanding of staff attitudes to promote good nutritional care in older care residents. They found staff had little knowledge of specific dietary needs and turned to GPs and dietitians for support. Yet, GPs often lack sufficient training in nutrition (Arvanitakis 2009) and staff are often unaware that simple food fortification (adding cream, butter etc.) could boost energy intake more effectively than prescribing fortified products (Merrell et al. 2012). Staff often have basic food safety training, but their nutritional knowledge can be limited (Philpin et al. 2014). They recommend that staff development and person-centred care should focus on resident preferences, histories and culture. Both Abbott et al.(2013) and Arvanitakis et al. (2008) have shown that training can impact on food intake and reduce incidence rates of undernutrition across the continuum of care. All too often, staff construct their views of mealtimes, on their own families and experiences and it was not clear from these reviews, if staff views agree with expectations and opinions of residents (Philpin et al. 2014). This literature review has revealed that staff knowledge of relationships; psychosocial behaviour; as well as nutritional standards; undernutrition screening; and food and drink are necessary to deliver good care. Yet, there appears to be little development of staff to appreciate the social and behavioural interaction within the context of the meaning of food. There still exists a lack of understanding of what staff and residents consider

important about the mealtime experience and how this translates into effective training. Nutrition has been included, since 2015, in one of fifteen standards in the national training for carers to gain the compulsory care certificate. However, also included in this standard is the requirement to demonstrate knowledge of food safety, and the nutrition training focuses on generic healthy eating guidelines for the entire population (Skills for Care 2014). Currently, there is a lack of evidence to show how effective it is in enhancing the nutrition knowledge and practice of care workers, and further research is required to understand how best to deliver training to ensure staff attitudes, knowledge and behaviour are developed.

Knowledge management and education continue to be the means to change attitudes, but financial models and poor staff retention can mean training is scarce (Roller et al. 2016a). Training of all care home staff and ensuring ongoing education in nutritional care and undernutrition, using a range of activities, was shown to be important in order to change behaviour by Roller et al. (2016a). Ericson-Lidman (2014) report on how staff have an ethical responsibility to provide supportive care that is informed, with a range of tools at their disposal to facilitate this. To do this they need support from their peers and management, as well as being listened to. Wellbeing of the resident, was shown by these researchers, to be equally as important as wellbeing of staff, yet, this is often overlooked.

Staff responsibility requires them to deliver person-centred nutritional care. The literature in this section has shown that to do this, care staff require appropriate education, management support and sufficient staffing levels to ensure that the meal experience is not just task-focused, but can deliver a multifaceted approach. However, how to deliver that training effectively, in order to implement person-centred, humanised care into practice is complex and needs further study.

3.3.7 Models for mealtimes

The literature reviewed so far has highlighted the complexity of the mealtime experience. The status of residents' health due to geriatric syndrome health problems will influence their experience of eating and drinking within the care setting. However, many factors already discussed are beyond residents control including food-service, the environment in which they eat, knowledge and attitudes of care staff and to some extent the social interaction opportunities. To bring some of these ideas together, a few researchers have developed models regarding specific aspects of mealtimes. In order to appreciate the literature in a fully informed manner, it was important to consider the significant models for mealtimes that have been proposed by these

researchers. One example of this is the Five Aspects of the Meal Model developed by Edwards and Gusstaffson (2008). This model was not designed to consider specific needs of the older person living in residential social care, but encompasses all aspects of hospitality catering including restaurants and institutional settings. It highlights the importance of the environment (room), interaction between staff and consumers (meeting), product (food and drink), management control systems and how these interact to produce the atmosphere in the eating place. The important factors considered in this model are starting to become apparent in the social care setting, but further understanding is required. This does not consider the challenges of social interaction, person-centred care and the impact of ageing that can affect the mealtime experience in residential care. More focused models are appropriate for this sector of the community.

Watkins et al. (2017b) have undertaken a review of the qualitative literature to reveal four themes that can impact on the mealtime experience. They specifically focused on qualitative interview studies involving care home residents and staff. Themes include: organisational and staff support; resident agency; meal-time culture and meal quality and enjoyment. They have proposed a model for mealtime interventions that include four themes: care provision; resident agency; mealtime culture and meal quality and enjoyment. The authors' reference to resident agency demonstrates the importance of individual choice of where to eat, when to eat and with whom. However, this model makes no recommendations on the importance of using food and drink to empower resident autonomy and make decisions to enable personal independence. The role of staff is recognised, but focuses on care staff, rather than the role of kitchen and other staff in improving the mealtime experience. There remains no recognition of the differences between care staff approaches and resident attitudes. In particular, the issues of resident social isolation and ensuring staff are able to deliver person-centred care are overlooked.

Chang et al. (2015) undertook a mixed methods study in Australia, using a questionnaire of resident's health status, and observations of staff actions to collect data. They have developed their 'Focus on Feeding Decision Model'. This model focuses on best nursing practice and incorporates the themes of mealtime tasks and relationships; however, the focus is on staff responsibilities, rather than accounting for resident understanding and thoughts of the mealtime experience.

The Nutri-live is a multi-nutrition strategy of the European Innovation Partnership on Active and Healthy Aging (EIP-AHA) and its aim is to consider personalised nutrition solutions for the aging population (Illario et al. 2016). The proposed Screening,

Assessment & Monitoring Pyramid Model (SAM-AP) intends to blend the culinary significance of food and drink, as well as recognising the importance of screening and clinical aspect of interventions. Illiario et al. (2016) report on the ambition for this model to encourage evidence based practice in health and social care in Europe. It aims to encourage a person-centred food intervention to prevent undernutrition with screening, assessment and monitoring being integral to care. However, this model does nothing towards understanding the psychosocial and behavioural aspects of the mealtime experience.

The search strategy did not include studies that had specifically focused on dementia. However, more recently, and since the data collection of the present study has occurred, it has become evident that 70 and 80% of residents in long-term care facilities have a dementia diagnosis or severe memory loss (Crogan et al. 2015; Thraves, 2016). In order to fully understand mealtimes, two significant research papers have been included, these focus on those living with dementia and add to the knowledge base of mealtimes in care homes. It was therefore important to include these in order to be fully informed of the current knowledge of the mealtime experience. The first, by Keller et al. (2017), concentrated on the complexities of mealtimes and delivering an excellent food-service system to enhance food and drink intake for those living with dementia in residential care. They proposed the 'Making the Most of Mealtimes M3' model through a high quality multi-centre cross-sectional study that included 639 participants in 32 homes across four provinces in Canada. The M3 model accounts for three components of delivery: meal quality; meal access; and mealtime experience. The same authors highlight the lack of good quality studies around mealtimes in long-term care facilities due to small sample sizes, inadequate control of confounding factors such as staffing and residents, as well as poorly articulated interventions (Keller et al. 2014). Within this model, much is made of the physical and mental state of the resident but there is little mention of how staff can influence the behaviour and psychosocial state of residents. The second study is a UK based study by Murphy et al. (2017), who present a 'Model for the Provision of Good Nutritional Care in Dementia'. It highlights the importance of drink intake, as well as food, with the focus of the model being to ensure person-centred care. This study is the only one that highlights the importance of food based activities in promoting good appetite and independence to retain resident autonomy in daily living.

Keller et al. (2017) and Murphy et al. (2017) undertook mixed methods studies comprehensively reviewing staff and health professional's attitudes and beliefs as well as a number of quantitative nutrition related measures of residents. Both studies

focused on dementia residents which presents challenges when undertaking interviews. However, neither have reviewed and simultaneously collected data from interviews of residents and staff to corroborate thoughts and increase understanding. Settings remain diverse, and their impact on food and drink delivery is only starting to become understood. As already highlighted, undernutrition rates remain high within this group of the population, and further understanding of the mealtime experience that includes views of both staff and residents is undoubtedly required.

3.4 **Summary of literature review**

The emerging literature has shown how person-centred care, that maintains and encourages autonomy and independence, is integral to general care for those living in residential homes (Cooper et al. 2017). Recognising dignity to enable residents to make independent food choices, based on preferences has been recognised as part of the mealtime experience (Franklin et al. 2006; Carrier et al. 2009; Winterburn 2009). Consequently, it has been identified that providing food and drink choice of good quality enhances the mealtime experience (Kenkmann et al. 2010; Abbey et al. 2015). Yet, meeting the food and drink requirements of large populations in care homes, continues to test food-service systems (Chisholm et al. 2011; Abbey et al. 2015) due to individual preferences, cultural differences and sensory decline, which can all too often contribute to negative experiences (Yamauchi et al. 2002; Nordin et al. 2003; Ducak and Keller 2011; Mahadevan et al. 2013; Mingioni et al. 2016;). This is despite, interventions that have shown adding variety to food-service with increased food and drink options and extended menu cycles can improve the mealtime experience (Carrier et al. 2009, Kenkmann et al. 2010). Challenges that conflict between policies involving health and safety, food safety and nutrition mean it is difficult for residents to partake in food related activities that can promote appetite and anticipation of mealtimes (Van Hoof et al. 2016). Socialisation too, has been identified as increasing food and drink intake, as well as overall quality of life (Hung et al. 2016). Small cafes, kitchenettes and drinks-making facilities can increase social interaction and offer a place to entertain visitors, to improve the overall mealtime experience (Carrier et al. 2009; Chan et al. 2012; Bhat et al. 2016; Van Hoof et al. 2016; Andrew & Ritchie 2017).

Conflict exists as to whether residential care homes are medical institutions or 'home' and this negatively affects the dining environment, despite a range of interventions that have been shown to improve the dining experience, by mimicking home including: nostalgia, culture and tradition (Mathey et al. 2001; Crogan et al. 2004; Nijs et al. 2006; Harnett and Jonson 2017). Social integration can reinforce social norms, and companionship encourages feelings of wellbeing, but relationships between residents

and staff can become difficult or damaged due to disruptive and difficult residents that can cause conflict (Dahlin-Ivanoff et al. 2007b; Bradshaw et al. 2012; Dunn and Moore 2014). Residents themselves struggle to create relationships, due to this challenging behaviour, as well as the transitory nature of care homes terminating with end of life (Curle and Keller 2010; Grondaal and Aargard 2015). Consequently, residents' connections are often superficial and there is a reluctance to build meaningful relationships, so as not to be emotionally hurt (Bonifas et al. 2014). Adequate staff numbers are required to deliver person-centred care for residents and develop relationships, but these too, can be affected by resident's behaviour and that of their peers (Curle & Keller 2010; Dunn & Moore 2014; Grondaal & Aargard 2015). The dependency of residents means they require help for general care and in many cases this extends to choosing food and drink, as well as consuming it (Pol-Grevelink et al. 2012). This dependency leads to staff to have conflicted perceptions of delivering person-centred care, dignity and what their role in 'entertaining' residents involves (Ullrich and McCutcheon 2010; Grondaal and Aagaard 2015). Studies have continued to implement interventions to train care staff with specific roles in relation to food and drink delivery; undernutrition screening; and increasing energy intake and weight, but with limited success and impact on residential social care practice generally (Simmons et al. 2017; Watkins et al. 2017b). Watson et al. (2017a) support the notion that the mealtime experience continues to be of importance for individuals in care homes and a number of models of nutritional care and mealtimes have been proposed, but none completely capture the full representation of the whole mealtime experience (Chang et al. 2015; Illario et al. 2016; Keller et al. 2017; Murphy et al. 2017; Watkins et al. 2017a).

3.5 Gaps in the literature to support further research

The evidence outlined in the literature review above has established the strong links between person-centred care, staff and resident relationships, as well as individual biological, social, cultural, behavioural needs and symbolic meaning. Mealtimes act as an important point of routine during the day, but food-service delivery can often be disappointing and it is often difficult for residents to feel they can express their views and preferences for food and dining (Reimer and Keller 2009; Palacios-Cena et al. 2013). Despite care workers having been shown to be important in determining the access to food and the opportunities to eat for residents; traditionally staff have been task-driven which creates negative consequences to socialisation (Sydner and Fjellstrom 2005; Ullrich and McCutcheon 2010). This literature review has highlighted the known individual variables that impact on the mealtime experience for older adults

in residential care but how they interact together is largely unknown. The literature has drawn attention to various opportunities to improve the wider mealtime experience but researchers have demonstrated mixed results. Studies are often small with limited evidence of effectiveness of interventions but no single study appraises the complex nature of how the factors interact. Additionally, there are a lack of good quality studies demonstrating how food and drink can be used together to improve quality of life as well as intake and prevent undernutrition.

The literature discussed in the earlier sections of this chapter has mainly focused on individual aspects of the mealtime experience. Cultural variations exist across countries, as well as research studies, and there is a lack of understanding of the mealtime experience in UK care homes. However, there is no new evidence in the literature that undernutrition rates are reducing. Indeed Elia (2015) reports that the cost to health and social care services remains high. It is becoming evident that mealtimes are not only about the actual food and drink presented, but autonomy, social interaction and environmental factors will influence the mealtime experience. Addressing person-centred care is important, but staff struggle to know how to deliver this (Ericson-Lidman et al. 2014). How dignity impacts on the mealtime experience requires further understanding. Education, through a range of pedagogical approaches and peer support, can contribute to care staff understanding of how to improve undernutrition screening and to some extent how to develop individual aspects of mealtime experience, but knowledge is limited on how to develop the holistic experience. Specifically, how different pedagogies can influence training curricula and tools to develop staff practice needs further understanding with respect to the mealtime experience.

Delivering food-service that meets preferred choices is well recognised, but the practical implication of how this is done in care homes has not been fully explored. The role of care plans within the wider staff team is unknown and little has been done to understand the wider role care staff have in ensuring food preferences are met. Accommodating food preferences and therapeutic diets is driven through care plans, but there is a paucity of data on how this information contributes to the mealtime experience and whether it is done effectively. Understanding food availability that meets preferred food choice is key to driving a positive mealtime experience (Reimer and Keller 2009; Dunn and Moore 2014), but requires further exploration to encourage independence and wellbeing of residents through novel food delivery channels.

Person-centred care, dignity and their links to the wellbeing of residents are difficult concepts for staff to understand in practice, and their application in ensuring a positive mealtime experience should be explored through every aspect of food and fluid delivery. Disempowerment through institutional living is common and suggested by Dunn and Moore (2014) to be a barrier to good nutrition as well as quality of life. Independence allows for a feeling of normality and reduced embarrassment even if additional support is provided (Palacios-Cena et al. 2013). Ways to promote independence of residents at mealtimes requires further exploration. Received social support can help with the coping ability of residents in a new environment, but the effect of social interaction at mealtimes to help residents retain their autonomy and individuality, highlighted by Vesnaver and Keller (2011) is largely unknown. The ways residents interact with staff, visitors and other residents requires further exploration to fully appreciate the effect of socialisation in practice on the mealtime experience. The importance of the dining environment was identified in the literature review, but what makes a homely place to eat a meal, in the opinion of the residents and staff, within the context of an institutional setting needs further understanding.

Understanding of the wider mealtime and its applicability to practical implications from both a resident and staff perspective would lead to further understanding of the enablers and barriers to implement a good mealtime experience in practice for older adults in residential social care. These concepts needed to be examined collectively to further understand the mealtime experience. A different approach was needed that did not focus on nutritional requirements and undernutrition but on the worldview of both staff and residents in care homes. It was important to understand if what mattered to care staff and what they thought was central to the mealtime experience for the residents or if there was a discrepancy in opinions. By simultaneously gaining understanding of the residents' experiences at mealtimes and increasing knowledge of the barriers and enablers there was an opportunity to refocus mealtimes on individual quality of life and enjoyment. By enabling staff to reflect on how the holistic mealtime environment is seen from the point of view of residents it is hoped to understand the person-centred mealtime experience.

3.6 Aim

The aim of the study is to critically explore the factors that affect the extensive meal experience for the older person in long term residential care in order to identify the enablers and barriers for good nutritional care and promote wellbeing and quality of life.

3.6.1 Objectives

1. To understand the meaning of the overall food and drink experience for the older person living in residential care, through different qualitative data collection methods for corroboration of results.
2. To understand the attitudes and appreciation of the overall food and drink experience in residential care homes from the staff perspective, using different nutrition focused training to act as stimuli and to draw attention to these factors, using a combination of quantitative and qualitative data collection methods.
3. To develop a theoretical framework of the overall food and drink experience, for residents in older person residential care, with the factors that contribute to quality of life and wellbeing, to include:
 - Residents expectations of the overall food and drink experience
 - Staff understanding and appreciation of the overall food and drink experience
 - Any anomalies between residents expectations and staff understanding
4. To identify the enablers and barriers to delivering a good mealtime experience for the older person living in residential care.

4 Methodology and method

4.1 Introduction

This chapter discusses the philosophical background to address the aim and objectives identified in chapter 2. It includes the ontological and epistemological position supporting the rationale of taking a pragmatic mixed methods approach. The role of the researcher was important to ensure the research was undertaken in a sound manner, and the contributing factors including researcher bias were considered. The reasoning behind the mixed methods design - to blend qualitative interviews and observations with a quantitative self-reported survey are critiqued. The complex detail of the development of the data collection tools, their reliability and validity, analysis of data and reporting of results are presented. Legal obligations of research ethics and assessing risk are critiqued and discussed.

4.2 Background

From the initial literature review, it was apparent there had been a range of research studies using different methods to understand and identify various individual aspects of the meal experience for residents in care homes. The methods used in these studies are summarised with references in Appendix 1. However, it was evident that understanding the factors that affect the extensive meal experience for cognitively active older adults in residential care was a newly evolving area of research. Research by Russell and Elia (2010; 2012), Cawood et al. (2008) and Parsons et al. (2010) in the UK and Arvanitikas et al. (2008) in Europe has taken the empirical quantitative approach of traditional nutritional science to investigate undernutrition and links to disease. Studies such as those by Elia and Russell (2010), Elia (2015) and BAPEN (2013) that quantify nutritional status through measures such as 'MUST', initially of patients in hospitals and more latterly of residents living in residential and nursing home settings were highlighted in the first chapter of this thesis. This work has increased awareness of undernutrition in the older population, and highlighted how it can lead to a significant deterioration in health and quality of life for residents in social care settings. Other quantitative studies (Appendix 1) focus on interventions to improve food and drink intake and reduce risk of undernutrition, assess behaviour and relate to quality of life measures, health and wellbeing, as well as considering practice of care staff.

Further research was identified in the literature review that used qualitative method techniques of interviews, focus groups and observations, to gain an in-depth

knowledge of the meaning of individual aspects of mealtime experiences (Appendix 1). In all the studies reviewed, the researchers investigated only one or two specific individual isolated concepts of the mealtime experience: person-centred care, food-service, environmental factors, social interaction and staff responsibility.

Few mixed methods studies were identified in the literature review, and none related directly to mealtime experience. Murphy et al. (2007) used qualitative interviews to inform a quantitative questionnaire, to understand the barriers and enablers to high quality nursing care for older people living with dementia in long-term care settings, from a staff perspective. Moloney et al. (2011) used a quantitative questionnaire and qualitative interviews, at intervals over a six-month period, to further knowledge of what 'home' meant to residents who had just moved into the care home. Although mealtimes were touched on, the main focus of the study was to understand the general environment and how it related to the concept of home.

The diverse nature of the participants in social care, residents and care workers with their variations in behaviour, cultural and social needs, meant that each of the single studies identified in both the initial and subsequent literature reviews (Appendices 1 and 2 respectively) do not give the complete picture of the factors affecting the mealtime experience of the older resident in long-term care facilities. The research reviewed emphasised the different approaches that could be taken to understand the mealtime experience, which consequently informed the researcher about diverse aspects of delivering food and drink to the older person in the residential care setting. This suggested the situation concerning eating and drinking was more complex than the literature was alluding to. Little work had been done to fully understand the experiences of delivering and consuming food and drink from the perspectives of both care workers and residents. In order to fully understand more about the barriers and enablers that exist, and in order to provide a good mealtime experience, to older adults in care homes, it was necessary to involve the perspectives of both residents and staff.

4.3 **Theoretical perspective**

A key consideration when conducting any research is that the researcher brings their own sets of ideas, values and beliefs about the nature of reality (ontology); how their role in the study influences the specific research questions, as nature is regarded as the product, not the evidence, of scientific thought (epistemology) (Crotty 1998; Denzin and Lincoln 2011) and then how they are examined (methodology) using specific techniques (method) (Draper 2004).

In the past, researchers took either the constructionist epistemological view that led to using qualitative methods, or the subjectivist philosophy that led to using quantitative methods (Crotty 1998). However, traditional thinking is now being challenged and a new third methodology has emerged based on mixed methods (Denzin and Lincoln 2011). The epistemological perspective being that there are different and complimentary forms of knowledge that can be derived from different observable phenomena and subjective meanings. This knowledge and perspectives from the two paradigms is therefore not necessarily exclusive, but can be integrated allowing a practical research approach to interpret the data and form conclusions (Crotty 1998; Johnson and Onwuegbuzi 2004). Blending the indirect characteristics of quantitative methods with the holistic characteristics of qualitative methods, and valuing both subjective and objective knowledge, gave a logical and practical solution to understanding the mealtime experience, from both a resident and staff perspective and would add value to this research. Mixed methods have a growing broad appeal in public health research to enlighten complex social issues (Cresswell 2009; Shifferdecker and Read 2009) and have been widely used for over 40 years in a practical, pragmatic way by the food industry to gather consumer views on food products (Stone and Bleibaum 2009).

However at this stage, it was important to contemplate the disadvantages of this epistemological perspective and whether this would impact on the research. Mixed methods are not without their critics. Authors have criticised how the different methods and methodologies might interact (Flick 2007) and ten years ago it was argued that they were under theorised and understudied (Green et al. 2011). There are differences between the philosophical epistemology of both qualitative and quantitative methodologies (Crotty 1998; Cresswell et al. 2011; Bishop 2015). Consequently, Franz et al. (2013) argue there are obstacles mixing these two very different paradigms and question whether they can be used together due to these different theoretical beliefs. Another issue discussed by Denzin and Lincoln (2011) is whether one paradigm is more dominant over another. They hypothesise that qualitative methods are regarded as minor to quantitative methods by some researchers, although it is increasingly recognised that qualitative data can provide a rich discourse of diverse viewpoints that can explain quantitative results.

By taking the epistemological middle ground of mixing methods and a pragmatic perspective, it became possible to take the view of 'what works' to answer the research question, rather than focus on a particular method. This stance of mixed methods research is well established (Burke-Johnson et al. 2007; Cresswell and Plano Clark

2011) as it encompasses a realm of inter-subjectivity, interaction, community and communication (Crotty 1998). Indeed, Cresswell and Plano Clark (2011) argue the pragmatic belief supports the use of both quantitative and qualitative research methods in a single study. They suggest the forced choice dichotomy of post positivism and constructivism can be discarded, in order to focus on the research question and add value to individuals' lives. This philosophical position of pragmatism enabled a critical realist approach to be taken, that would consider the strengths and weaknesses of the different, but complimentary methods. A blended approach to integrate the quantitative results and qualitative data could then be selected, to form meaningful conclusions about the extensive meal experience, and to understand the barriers and enablers of good nutritional care and how it links to the mealtime experience, for the cognitively active older adults in residential care.

Researcher knowledge of both quantitative and qualitative methodological paradigms is necessary in order to understand mixed methods research, and these are summarised in Table 3 (Zoelner and Harris 2017). As a mixed methods researcher, it was necessary to consider the realist perspective of quantitative research and the relativist perspective of qualitative research, in order to understand the limits of objectivity in interpreting the evidence from both paradigms. These should be considered when evaluating the transparency of the data. The mealtime experience required elements of both types of knowledge and meant the investigation could incorporate the worldview of both residents and staff in care homes. A pragmatic, real world solution was to select a methodological stance that incorporated the characteristics of both positivist and constructivist epistemology. This enabled empirical observation and measurement by impartially collecting data using questionnaires from staff, and appreciation of a number of both staff and residents beliefs and opinions, through social construction and theory generation through interviews and observation.

Table 3 Philosophical paradigms leading to different methodological approaches of this study and the specific techniques to gather and interpret data

Philosophical paradigm	Constructionist	Positivism	Pragmatist
Epistemology	Closeness	Distance and impartiality	Practicality
Characteristics	Understanding, multiple participant meanings	Empirical observation and measurement and theory verification	Problem centred and real world practice orientated
Belief	Relativist	Realist	Pragmatic
Methodological approach	Qualitative	Quantitative	Mixed method
Method	Interviews and observations	Surveys yielding numeric data	Blending different methods
Analytical process	Analytical induction	Deductive	Blend of induction/deduction and subjectivity/objectivity
Approach to analysis	Themes derived from data (thematic analysis)	Predefined coding frames	Integration of data

(Draper 2004; Cresswell and Plano Clark 2011; Denzin & Lincoln 2011; Evans et al. 2011; Bishop 2015)

4.4 Role of the researcher

The role of the researcher within the research, the questions asked and the way they were asked was going to be fundamental to the success of this research. The way researchers know, as well as what they know, is linked to the relationships with the research participants (Denzin and Lincoln 2011). The intention across the different methods must be to ensure that the research findings are objective. Qualitative researchers must address their potential pre-conceptions, and how these will affect the research, by reflecting on their assumptions and biases (Fassinger & Morrow 2013) in order to ensure the credibility of their research (Fade 2003). Quantitative researchers must eliminate bias through ensuring the instruments such as the questionnaire used and processes - such as instrument distribution - are reliable, valid and free from bias.

The literature review identified gaps in knowledge, but the epistemological stance of pragmatism required the situation to be appraised through a new lens.

Researcher reflexivity is a strategy that shows awareness of personal attitudes and how these both contribute to, and affect the research (Pilnick & Swift 2010). The researcher should declare their own worldviews, as well as adopt and situate themselves within the worldviews of the participants. Self-awareness of gender, professional background and life experiences were needed to recognise potential research bias when conducting this research. These were complex, but included education, age and professional status. In the case of this research project, the researcher needed to consider her passion for food and drink did not interfere with data collection. Food and drink are consumed by all, but the degree of involvement with that food and drink is different for all consumers (Cox and Anderson 2004). Conversely, it is difficult to filter this bias, and researchers' experiences can be used to add to world knowledge and contextualise the research. In this study, the researcher has an important role that needed to be recognised in collecting the data and scrutinising it. This awareness was needed to critique that data and ensure it was not anecdotal and unscientific, but the limits of the researchers own objectivity had to be recognised and steps were taken in the research design to ensure findings were objective. Returning repeatedly to the research aim and objectives was important, as well as recognising any researcher prejudices that were brought to the investigation.

Particularly important were the researcher experiences that would differ from those of the participants. In the case of this research, it was important to be fully aware of the insider/outsider challenges and contributions made as a researcher. Undertaking work at a local university could inadvertently create barriers when collecting the data, due to the perceptions of the participants of educational and professional status, as well as potential power imbalance (Draper and Swift 2010). Efforts were made to reduce this by recognising common understandings and facilitate sharing of ideas with participants, to draw out information. This study did not have the benefit of a research team, who could have brought diverse attitudes and skills alongside the benefits of multiple perspectives in both collecting and analysing the data. Constant review of the aim and objectives of this study were necessary to remain focused. There was a need to fully explore the views of residents and to ensure all opinions were captured; including those that did not match the existing knowledge base; differed from the majority; and the researchers own worldview. Reading and re-reading transcripts for evidence within conversations was necessary. Reflecting on this was important to ensure a complete discussion of the mealtime experience.

There was a need to respect the cultural values of the participants; building a rapport and respecting their needs by using knowledge of ethical research practice. Efforts were made to enter care homes respectfully and not to interrupt the flow of activities within the home. Language was another important consideration and generational differences between the researcher and the older resident participants might have caused misunderstandings, both at interview stage and interpreting and reviewing the data. Care was taken to use language in the interview protocols that was familiar to the residents. Time was taken to review the interview protocols with two older people to ensure language and words used were comprehensible. Care home staff developed a relationship with the researcher through a number of settings and this helped to gain their confidence. This trust enabled access to care settings in order to undertake interviews, although this action in itself could have introduced a degree of bias to participation in interviews and completing questionnaires. Collecting completed questionnaires was less easy as these were disseminated to a wider audience who did not necessarily know or have confidence in the researcher.

In the quantitative method, the questionnaire acted as the tool to measure the variables (Cresswell 2009). Therefore, the researcher maintained an independent role with indirect contact with the staff participants (Bowling 2009). This objectivity is paramount, but the researcher should retain the same knowledge as the qualitative researcher about their own biases influenced by gender, experience and knowledge when designing the research

4.5 Rationale for research design

The pragmatic approach of this study enabled the use of a variety of different methods. The opportunity presented itself to blend both quantitative and qualitative methods to interpret and merge data then compare it to form conclusions. Therefore in this study, the aim was met by mixing methods to build stronger conclusions by cross checking and corroborating results (Shifferdecker and Read 2009; Bazely and Kemp 2012). The literature reports that the strengths of one part of the design can be used to address the limitations in another part of the methodology (Johnson & Onweugbuzie, 2004). In this study, the quantitative questionnaire results would represent a large group of staff and evaluate their understanding of residents' mealtime experience, but this alone would not gain a depth of understanding of the mealtime experience from older people. This was compensated for by using qualitative interviews of a smaller number of people (staff and residents) and observations of mealtimes, to gain a depth of meaning of the older peoples' views of the mealtime experience. If the findings from both components agreed, then there could be greater confidence in the final conclusions: if

they did not, then the two sets of data would have added to overall knowledge and understanding, by providing more depth of evidence to the complexity of the situation (Johnson and Onwuegbuzie 2004). This practical approach would give the opportunity to understand staff and residents interpretation of the mealtime experience and realise the barriers and enablers to improving mealtimes for residents in residential care homes. By blending the methods and recognising the differences shown in Table 4 it would be possible to gain a deeper understanding of the mealtime experience.

Table 4 Differences between qualitative and quantitative methodologies

Qualitative	Quantitative
Subjective	Objective
Unstructured	Structured
Inductive	Deductive
Develop a theory	Test a theory
Time consuming to collect and analyse data	Phenomenon may be missed because of the focus of the hypothesis
Useful to describe complex phenomena	Testing hypotheses that are constructed before data are collected
Describes rich description of local contexts	Can generalise findings to other populations
Data collected in the 'natural' setting	Can be relatively quick and easy to collect data
Provides rich description of personal experiences	Provides precise data
Researchers can be responsive to findings and shift the focus of the study to meet local needs	Data analysis using statistical software can be quick
Cause and effect can be measured.	Research results are independent of the researcher
Useful to study limited number of cases in more depth	Useful to measure large groups of people
Knowledge produced may not be relevant to other populations	Theory behind research may not reflect local views and understandings

(Johnson and Onwuegbuzie 2004)

As the literature review developed it became apparent that there was a need to thoroughly review the meal experience for residents in care homes from a number of viewpoints. The experiences and understandings of the residents and the role care

staff have in implementing these were considered important in understanding the gaps in knowledge, skills and competencies in delivering this experience. This added a unique dimension to the research.

It was important to decide on the method that would best capture data to answer the research questions. By using a variety of data collection methods the situation could be fully understood: it was a practical choice. Little data has been collected on the older persons' views of the meal experience in care homes. These older residents are a vulnerable sector of the community, and ethically the researcher has a responsibility to consider how best to collect data that considers their age, frailty and health. Hall et al. (2009) report that older residents may agree to the research because they want the human contact, or that they have a responsibility to contribute to increasing knowledge without fully understanding the purpose or requirements of the research. In addition, a greater understanding of these needs would enable them to contribute fully to the research programme and explore their mealtime experiences. To gain an insight into the lives of residents, it was important to collect different perspectives from cognitively active residents who were able to articulate their experiences within the world of nutritional care in the care setting.

The use of qualitative analysis would enable understanding of practice through a more inductive bottom-up approach (Shaw 1999), but due to its time-consuming nature, it would not enable the gathering of data from larger numbers of participants. If used alone, there would be insufficient depth of understanding required to answer the research question fully and valuable information might be missed. By supporting the qualitative learnings with quantitative data there was an opportunity to increase understanding of the mealtime experience.

4.5.1 Qualitative approach

Qualitative research is a methodological approach that explores the social and human problems in society. In contrast to the preciseness of quantitative research, it typically sets out to understand phenomena through descriptive narrative of words and observations, to give a holistic picture conducted in the natural setting. The researcher is able to collect data in a richer, more inductive way (Zoelner and Harris, 2017) and is enabled to understand the meaning of individuals in relation to a social problem, drawing meaning from the experiences of participants (Gilbert 2008). One of the strengths of qualitative research is to appreciate the enriched meaning of the data, through the human element of interpretation from smaller samples sizes (Kettles et al. 2011). However, it cannot be used to make broad generalisations about the population

(Johnson and Onwuegbuzie 2004) and is heavily dependent on researcher skills, intellect and creativity (Brownie and Coutts 2013).

This type of research is already used extensively in areas of health and social care to understand care givers and service user views and experiences (Denzin and Lincoln 2008). These are normally complex and interwoven. Qualitative data collection provides the best form of enquiry for exploring the real life context in its natural setting, such as in care homes. It gives the opportunity to describe opinions and behaviours within the situation where they occur (Draper 2004). The opportunity of taking an inductive approach meant it was possible to explore the mealtime experience in an open-ended manner. This complemented the cross-sectional surveys that only provided an estimate of association between the factors of the study. Qualitative methodology is framed by a number of different frameworks and there are no standardised approaches in qualitative research, and yet, choosing the appropriate method is necessary to ensure high quality research (Draper & Swift 2010). In-depth interviews gave an opportunity to gain comprehensive and detailed understanding from individuals about their mealtime experiences, whilst mealtime observations helped to corroborate and understand any differences in findings from staff and residents interviews as well as observe what happens to those residents who lacked the capacity to be interviewed.

However, there are many different approaches to interviews in research; varying in structure; participants; and administration (Draper & Swift 2010). At one end of the interview continuum are fully structured interviews where the questions are predefined. These help answer specific research questions, but do not allow themes to evolve from the participants. At the other end of this continuum are unstructured in-depth interviews that allow interviewees to fully express themselves, but maybe less useful at answering specific aims and objectives (Harris et al. 2009). It was decided in this study to proceed with semi-structured interviews midway along the described continuum whereby the literature review was used to inform the open-ended questions and interview protocols. The flexibility of this approach allowed the researcher to probe as necessary, with additional questions that explored leads and issues which had not been identified in the literature (Draper & Swift 2010).

One-on-one interviews were selected to understand the mealtime experience of both the older residents and care workers. Many older people suffer from sensory loss including hearing and eyesight impairment. Verbal qualitative interviews, with one older resident at a time, maximised focus and were less distracting, therefore enabling data to be collected in a constructive manner, but time was needed to ensure the

participants were put at ease and encouraged to fully participate (Kirkevold and Bergland 2007). Face-to-face interviews captured body language of individuals which was important in determining the length of interviews, particularly with the older residents who might struggle with concentration and fatigue caused by frailty. Although focus groups would enable a group of people to build on verbal cues from each other, the sensory losses of the older residents could impede any benefits the group discussion might have. It could have been challenging to gather groups of participants together at specific times. Lack of funding leading to staff shortages within residential care homes was highlighted by Humphries et al. (2016) and it was envisaged this might be a barrier for care home staff to attend focus group interviews.

Interviews are a form of guided conversation (Draper & Swift 2010). Listening, remaining engaged and sounding interested during these interviews was important to draw out the views of the interviewee. There was a need to balance the probing for information without the participants feeling interrogated (Draper & Swift 2010). Building a rapport with participants is suggested by Kirkevold and Bergland (2007) to improve the quality of the data and encourage participants to expand on their ideas. Strategies to listen actively included; signalling there was plenty of time; ensuring body language was appropriate to gain the confidence of interviewees; using words such as 'mmm' and 'that's interesting' were included as prompts in the interview protocol. One challenge encountered was to tolerate stretches of silence whilst residents collected their thoughts, and care was taken to not interrupt them. Memory deficits for the older participants were encountered and necessitated remaining sensitive to this mild cognitive impairment, without exposing the problem and threatening their dignity.

The literature highlights how qualitative data collection can be more flexible (Patton 2002; Draper 2004). The fluid dynamics of this type of research has the scope to adapt and inform subsequent fieldwork. In this project interviewing residents alone would limit the findings. There was concern that they would say what they thought the researcher wanted to hear, and were cautious about upsetting the care management staff. This is a natural response and although care was taken to stress the researcher's role, anonymity and confidentiality assured, the possible bias during data analysis needed to be considered. Viewpoints of care staff were important in establishing the framework for the meaning of food and fluid delivery in care homes from a different perspective than the residents alone.

Observations were useful to determine what was actually happening, rather than what people said was happening (Draper & Swift 2010). Structured observations provided an opportunity to view mealtimes with no participant involvement, to corroborate the

interviews and validate the data outputs. They allowed rich description of the process of mealtimes, involvement of staff and residents, their activities and interactions and had the advantage of observing the experience in context.

Qualitative research is firmly embedded in the interpretive tradition. Human science cannot explain all behaviour as it is based on a complex set of intentions, motives, principals, social rules and ethics (Draper 2004). The inductive, qualitative approach required preconceptions to be neutralised and conclusions to be based on a dispassionate analysis of the data. It was important to understand these to set the context of the quantitative results and draw conclusions from the mixed methods. Qualitative data are normally analysed through analytical induction whereby the researcher can move from observation and recording of words to form themed meanings. Although generally used to inform within the context of specific research, the findings are often applicable within related settings (Fade 2003).

For future evaluation and necessary comparison of the data from this study with other studies in the discussion, it was important to identify the method of data analysis. A thorough literature review was required to assist in the development of the questionnaire and the semi-structured interview protocols. Braun and Clarke (2013) expound the use of thematic analysis which allows the researcher to develop theoretical analysis from interviews and observations. It is a widely used analytical tool to qualitative methods renowned for its flexible approach to data analysis that lends itself to the aim of this study and the theoretical assumptions (Draper 2004). This suits the pragmatic approach to mixed methods (Creswell et al. 2011). This flexible approach to theme meanings is suggested by Holloway and Todres (2003) as one of the few generic skills across qualitative research and can be regarded as the foundation for undertaking analysis. It allowed for social and psychological interpretation of the data in this research and has been shown to be useful in guiding public policy. Due to the wide reaching uses of thematic analysis, Braun and Clarke (2013) argue the case that it should be regarded as a distinct method and go so far as to contend that thematic analysis can be used as a theory in its own right. It was well suited to the context of analysing the data in this study, to reflect reality and report meanings and experiences of both the participating care workers and residents. It was possible to run the thematic data analysis alongside the data collection to reach saturation of themes to explain and understand patterns of behaviour at mealtimes (Draper 2004).

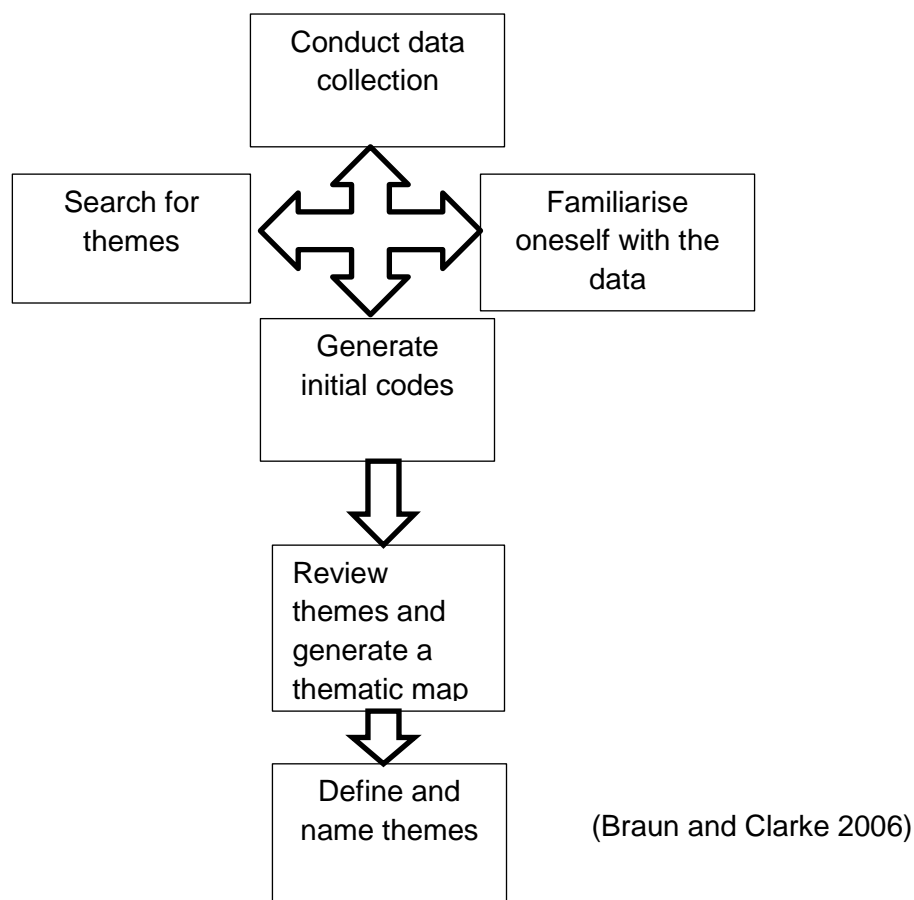
The aim guided the interview and observation protocols, but the interview questions were kept open-ended and allowed for exploration of participant insights. Purposive

sampling from local care homes allowed for continual review of the data and a complete set of theoretical concepts to emerge, as interviews and observations progressed, with a range of different participants. It allowed the participants to have a voice but at the same time enabled interpretation of the data into themes. It was possible to target different participants in a diverse range of care homes, to achieve saturation of data. Analysis continued in a systematic form during and after the data collection was completed.

Thematic analysis places emphasis on coding as a method of data analysis (Gilbert 2008). Data segments from interviews and observations were labelled conceptually to identify themes, patterns, processes and relationships. The nature of this mixed methods research with its quantitative and qualitative element meant some epistemological judgements had been made about the role of the researcher. Preconceptions had to be balanced and accounted for whilst coding the data, in order to ensure it did not fit into a pre-existing coding frame. For this reason, a theoretical thematic analysis was undertaken rather than inductive analysis. This theoretical analysis enabled the specific research question to be addressed.

Braun and Clarke (2006) suggest that the identification of themes should be either at a semantic or latent level but not both. The focus on thematic analysis is across data sets which helped to meet the aim of the research as the explicit meanings of the data were important, to identify the barriers and enablers to delivering a good mealtime experience to older residents in care homes. The interpretations of these meanings were then compared to the literature in the discussion section of this thesis. This was important to understand the real world delivery of food and drink in care homes and be able to translate this into recommendations for the future. Analysis was undertaken in line with Braun and Clarke (2013) and summarised in Figure 1:

Figure 1 Phases of thematic analysis



4.5.2 Quantitative approach

The positivist epistemology links to quantitative methodology have been supported by the scientific community for a long time. It is concerned with understanding and describing the world in terms of observable and measurable phenomena (Draper 2004). Findings are based on hard data that is directly observed via the senses, and these observations from the real world are how knowledge is acquired.

This deductive approach to research has an objective reality that is independent of observations. Hypothesis testing is fundamental to this type of research whereby theory, based on the literature, guides how facts are measured and analysed (Curtis and Drennan 2013). This theory can be expressed as a pure hypothesis or based on a theoretical concept. Findings are derived from numbers that are processed through statistical formulae and methods, as well as other quantification procedures to draw conclusions (Draper 2004). Quantitative methods can allow the deduction of cause and effect through the use of larger samples to be generalised out into populations. Study designs clearly specify the approach; how this will be measured using certain groups of participants, as well as how they are selected and sampled. Clearly defined

statistical procedures and measurements exist to interpret the results and draw conclusions (Draper 2004). Consequently, they should be reproducible by any researcher, anywhere, providing the same protocols are followed using the same set of conditions.

Quantitative research method approaches and designs are numerous and choice is dependent on the research question (Curtis and Drennan 2013). Cross-sectional surveys can be used to measure the prevalence of behaviours and views and were therefore, ideal to establish the opinions of care workers within a population, and provided numeric explanations of trends and behaviours within a population (Cresswell 2009). The development of the quantitative questionnaire was crucial to collecting data. By sampling a small group of individuals it is possible to make generalisations about a population. Surveys are advantageous as they are economic to design and distribute; data can be collected and analysed relatively quickly (Bowling 2009). Cross-sectional surveys that are collected at one point in time are a useful and popular method to observe specific phenomena from a population about current behaviour. However, it is only possible for them to provide an estimate of association between the factors of the study, as they can be affected by other confounding variables such as motivation and why people behave in certain ways. Quantitative data collection through a questionnaire made it possible to capture the experiences and knowledge of a greater number of care workers through generalisation (Kettles et al. 2011), measuring observable phenomena (Draper 2004) and giving credibility to the final outcomes of the project (Johnson and Onwuegbuzie 2004).

The design is important to measure the phenomena of interest (Bowling 2009). Structured questionnaires collect unambiguous and measurable answers, as was required in this research. The aim was to estimate the prevalence of the characteristics and behaviours that contributed to the mealtime experience. The substantial literature review undertaken in the early stages of this research study enlightened the development of the tool and gained a thorough understanding of previous work. As part of the literature review, suitable previously validated tools were reviewed. As this was a new area of research, and a thorough examination of all aspects of the mealtime experience had not been undertaken, it became apparent a new questionnaire would have to be created.

The development of a questionnaire gave an opportunity to quantify some of the findings of the mealtime experience. It was important to ensure data collection from those working within the care setting was manageable and not an onerous task. Due to the pressures of the workplace environment, time is limited for carers and a self-

completed questionnaire would be suitable for determining what is actually happening in the residential care setting regarding nutritional care and the mealtime experience. Generally, questionnaires can be completed in a shorter time frame than interviews making them a more practical solution for data collection. This was regarded as the best way to capture information from a larger group of care workers.

4.6 Overview of method

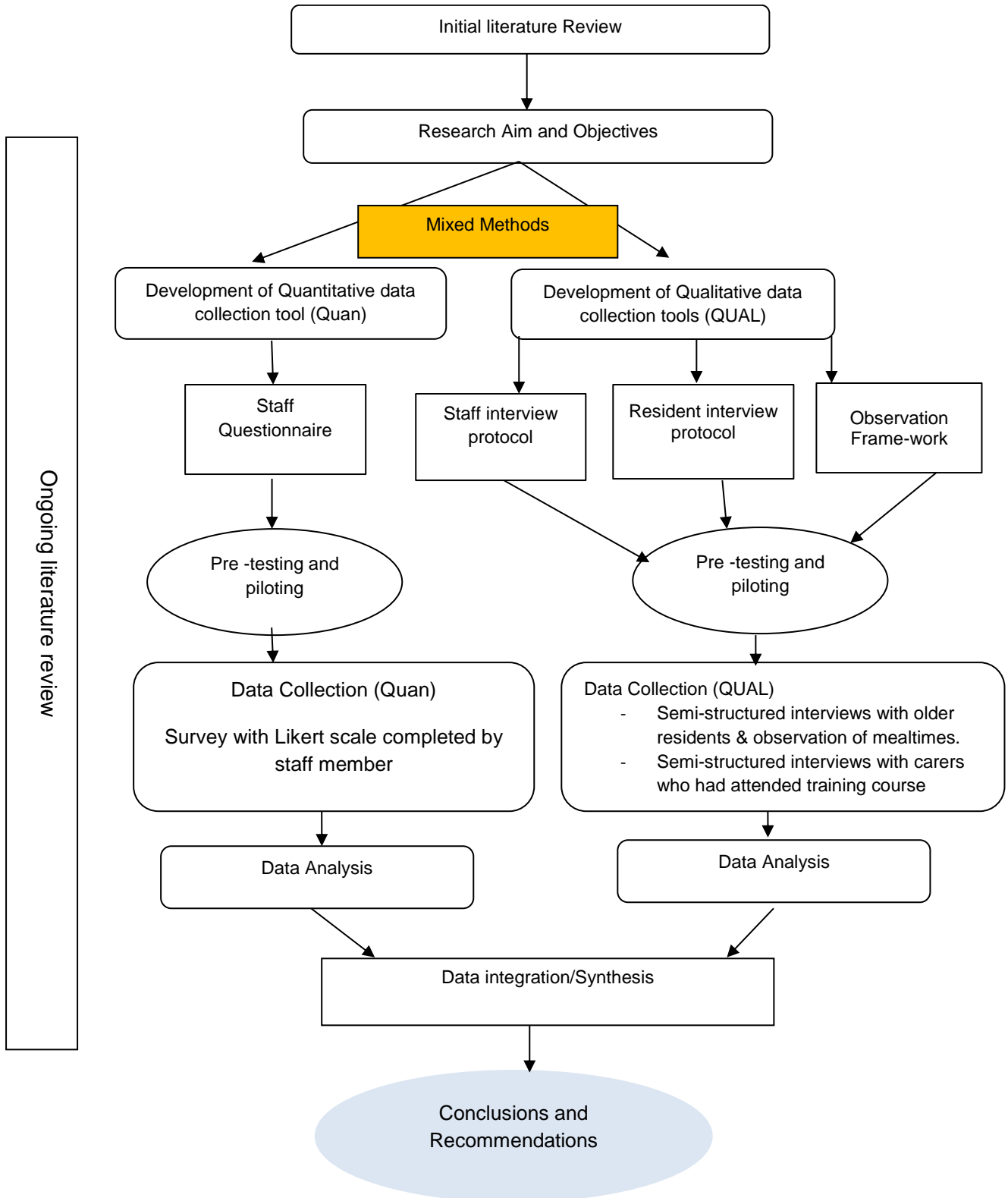
The mixed method chosen to answer the research question was a fixed convergent design that blended a dominant qualitative (QUAL) and complementary quantitative (quan) strand, to fully understand the problem predetermined at the start of the research (Cresswell et al. 2011; Cresswell and Plano Clark 2011; Zoelner and Harris 2017). The detailed outline of how this was implemented is shown in Figures 2 and 3. A between-strategy approach was taken. Different methods were used to collect the quantitative and qualitative data. The cross-sectional design and the need to collect data simultaneously was necessary due to the relatively short length of time available for collection (Shifferdecker and Read 2009). This was because two education programmes, an in class, one day nutrition training programme and an experiential, reflective two day Dignity in care programme, were being used as stimuli for the research. These were held irregularly, and one method of data collection, via the Dignity in Care project had a finite life, as training sessions were to be completed by mid-2014 to meet EU Interreg IV 2 Seas funding requirements.

Figure 2 Summary diagram of convergent parallel design



(QUAL indicates dominant qualitative thread, quan indicates smaller quantitative thread).

Figure 3 Summary of mixed methods fixed convergent design



4.7 **Sampling and recruitment of participants**

There were four different samples in the study, all recruited from residential homes that specialised in care of the older person, through purposive sampling from personal networks of the researcher in Dorset, Bournemouth and Poole. These networks were based on a collaborative working relationship between the researcher and Dorset based Partners in Care, a work-force development agency funded by the councils across the county, to provide a central source to raise standards in adult social care locally. The co-development of two projects meant the researcher had a good working relationship with many residential and nursing homes caring for the older adults across Dorset. This relationship and the two projects identified below gave opportunities to explore nutritional care and the mealtime experience in these settings in a unique manner.

Project 1: Short one day nutrition workshops

One day class room based taught workshop. The aim was to educate key care sector workers in principles of good nutrition and hydration for older adults. Over time the course was developed to include a reflective workbook to be completed and assessed following attendance. At the time, the course gained Association for Nutrition professional accreditation at Level 3.

Project 2: European Union Interreg IVA 2 Seas Dignity in Care

The EU Dignity in Care project (INTERREG IVA 2 “Mers Seas Zeeën” 7-029-BE_Dignity-in Care 2014) focused on promoting dignity in the health and social care sector through ethical reflection. The project had a number of elements to share good practice and promote dignity in care which is detailed by Vanlaere et al. (2010). However, the main thread involved care workers attending a training facility in Flanders or Netherlands and immersing themselves in the role of a care receiver for 24 hours. The caring was undertaken by students – nurses from the project partner universities and nutrition students from Bournemouth University. The consequent experiential learning and ethical reflection by the care workers led to a deeper understanding of dignity, and the attendance of the nutrition students meant the care workers from Dorset had a particular focus for their care needs on nutrition. The emphasis on nutrition was further endorsed as the project team, care workers and nutrition students travelled together to the training facilities in Netherlands and Flanders.

Care homes were selected from their participation on the above courses. The unique aspect of this study was to allow care home staff to reflect on the importance of

nutrition after either of these courses enabling a deeper understanding of the meal experience for older adults. The participating care homes were likely to be more engaged in improving practice, which was seen as a positive. Mealtimes were expected to be a priority and an important part of the ethos of the home, therefore any best practice demonstrated as well as experiences from the Dignity in Care programme could be used to enlighten this research.

The participants were:

- Care staff, including managers, nurses and health care assistants, working in long-term care homes.
- Older people (men and women) living in a sample of the same long-term residential care homes.

The care home staff who had attended these courses were the first point of contact with the care home and these staff were invited to participate through purposive volunteer sampling based on their willingness to participate. Cresswell and Plano-Clark (2011) identify that it is acceptable to have two different sample sizes. Informants were selected due to their willingness to participate, although Miles and Huberman (1994) highlight the problems associated with this approach. They may be selective in the information they give, overlook important behaviour characteristics and give false perceptions depending on levels of individual priority. However, this was necessary in order to not cause distress to participating residents and ensure care home staff were not pressurised into contributing. The approach was found to facilitate recruitment. Residents were invited to participate through purposive volunteer sampling, in addition, staff were asked to advise which residents would be willing to participate and be able to give informed consent. This was necessary in order to not cause distress to participating residents and to meet ethics requirements. The number of participants are summarised below:

- Staff from 84 care homes were approached and invited to complete a quantitative questionnaire.
- A purposive sample of 15 care home staff was invited to participate in interviews.
- A purposive sample of 14 older people was identified by the staff members who participated in interviews, based on who may be willing and able to participate in interviews and who met the recruitment criteria. The researcher then invited the older people to participate in the interviews for the study.

- Permission was sought from the same 15 care homes to undertake a lunch time meal observation within the care home.

Recruitment criteria

A set of recruitment inclusion and exclusion criteria were necessary to comply with the ethical values of the study and are presented in Table 5. The focus of this study was on the mealtime experience of older people. The World Health Organisation recognise that most developed countries define the older person as 65 years or older.

Consequently, an age limit of over 65 years was set for this study (WHO 2007). It was appropriate to exclude people with learning disabilities and those older people receiving parenteral and enteral nutrition who have complex nutritional requirements that may compromise the mealtime experience.

Table 5 Research participant inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Care homes that specialise in older residents over 65 years	Care homes that specialise in residents who are younger than 65 years of age
	Care homes that specialise in residents with learning disabilities
Participating care homes will be those that have sent a participant on either the Bournemouth University short nutrition course or the Dignity in Care training	Care homes where managers do not consent to the study
Any participant planning to attend either the Bournemouth University short course or the Dignity in Care training	Intervention attendees who do not consent to the study
Any resident who lives at a participating care home	Residents who are not experiencing the full residential mealtime.
	Residents on parenteral or enteral feeding regimes
Resident who is able to give informed consent	Residents who do not consent to the study
Resident who is over the age of 65 years	Residents who suffer from dementia, alzheimers and other forms of cognitive impairment and unable to give informed consent.
Resident who has the capacity to partake in a 45 minute interview to inform the interviewer about the holistic meal experience	Residents who are unable to partake in a semi-structured interview of 45 minute duration.
Non NHS sites only	NHS sites

4.8 Data collection

Four methods of data collection were used in this study. This is because different perspectives might have existed for residents and staff within the context of the enablers and barriers to delivering a good mealtime experience. Staff views were gathered using questionnaires and one-to-one interviews. The views of the residents were obtained using one-to-one interviews. The overall mealtime experience was evaluated using non participant observation. The intention of using this mix of quantitative and qualitative data collection methods was to enable in-depth exploration of the individual experiences, augmented by more detailed information on measured subjective opinion of the mealtime experience. The use of non-participant observation facilitated an understanding of how far the perspectives described in other methods were corroborated in practice.

4.8.1 Staff Questionnaires

Quantitative questionnaires were completed by staff to gain real-world views. Care staff have variable information technology skills (PWC 2013) therefore, for pragmatic reasons, and to ensure care workers were as relaxed as possible, paper copies of the questionnaires were completed rather than online versions.

Initially, contact was made by phone and questionnaires were sent out in the post. Despite follow-up telephone calls, return rates were initially less than 25%, which is one of the recognised constraints of quantitative data collection (Boushey et al. 2008). Due to poor response rates the strategy of approaching participants when they undertook training was adopted. They were offered coffee and the purpose of the research explained to them. They were asked if they would complete the questionnaire before leaving. This approach significantly improved return rates with a total of 52 questionnaires returned (62% return rate).

4.8.2 Staff Interviews

Semi-structured qualitative interviews of key care workers in residential care homes were conducted four to six weeks following attendance on either of the training courses. These were conducted in the care home, either in a quiet public place, or in the office of the member of staff. This enabled the researcher and the staff member to focus on the interview with limited distractions, and enabled a rapport to be developed whilst maintaining a level of professionalism. They varied in length from 20 – 45 minutes and tended to depend on how useful the participant had found the course and how they had reflected and related it to practice.

4.8.3 Resident Interviews

Semi-structured qualitative verbal interviews were carried out with older residents, who were able to give informed consent, from the residential care homes. These were designed to be approximately 45 minutes in length, conducted within the care home setting, in a quiet public place or in the residents own room. They were conducted prior to mealtimes when residents were more likely to be alert, as Hall et al. (2009) identified that residents tended to be lethargic and tired after mealtimes. The interviews were conducted after key care workers or managers had attended either the short nutrition or the Dignity in Care courses. The semi-structured interviews enabled the researcher to follow up important ideas of residents and allow opinions to be developed and clarified through further questioning to answer the research question. The semi structure interview protocol provided a structure to the interviews, and the participant information sheet informed the participants that the topic was about mealtimes in care homes. Consequently, the focus was - to some extent – determined, and meant some data from the interviews would have been lost as it was not allowed to naturally emerge.

4.8.4 Non participant observation

Observations of mealtimes were conducted on the same day as the interviews for convenience of staff at the care homes. This reduced interruptions at the care home and enabled the researcher to become immersed in the culture of the care home, with the interviews aiding the depth of observation of mealtimes. The observation was undertaken at the main meal of the day, normally lunch time, as this was the one most likely for residents to eat in the dining room. The researcher was located in a less prominent position with full view of the dining room activities. The researcher arrived 15 – 30 minutes before the meal was due to be served, and stayed until after residents started to leave. During this time the opportunity was taken to scrutinise movement, environmental and social interactions.

All interviews were recorded and transcribed verbatim and observation notes written up as soon as possible after the interview. This was to ensure accurate representation of the data via the transcriptions. Repeated returning to notes and transcriptions increased familiarity with the data and enabled reflection and deeper analysis when coding. This was an important undertaking as a sole researcher.

4.9 **Development of data collection tools**

All data collection tools

The preliminary literature review established the following concepts were important in contributing to the food and drink experience:

- Food-service
- Sensory appeal
- Environmental factors
- Social interaction
- Person-centred care; and
- Staff responsibility

From this literature review the concepts were considered at the point of design of all the data collection tools; the matrices for the questionnaire, interview protocols and observation framework were developed, as recommended by Whati et al. (2005) and are shown in Tables 6 - 8. Parallel questions were asked in quantitative and qualitative data collection to enable the concepts to be merged later in analysis as suggested by Creswell and Plano Clark (2011) due to the challenge of mixing text and words (Collins et al. 2007). Variables and factors that were highlighted as important in the initial literature review were used to frame the questions.

4.9.1 **Staff questionnaire**

The staff questionnaire required a structured approach with measurable answers. The only demographic data requested was job role. The focus of the questionnaire was to understand attitudes of care staff, regardless of other demographic information. Two open questions were asked regarding monitoring of food and drink intake to provide clarity for the researcher. These are summarised in Table 6 and the full questionnaire can be seen in Appendix 3.

Table 6 Table to show the construct of staff questionnaires from the concepts developed in the initial literature review

Concept	Questionnaire
Food-service	<p>7. If a resident is following a special diet (e.g. vegetarian, modified texture/pureed), how many choices do they have on the menu for their main meal?</p> <p>8. Food for all the residents always looks appetising including for those residents requiring special diets (inc modified texture/pureed).</p> <p>10. Residents make their own meal choices in the morning for all meals that day.</p> <p>11. If a resident has special needs e.g. dementia/Alzheimer how are the menu options presented? (5 options + other)*</p> <p>13. What is the normal length of time between the evening meal and breakfast?</p> <p>14. There are a wide range of snacks on offer ALL of the time.</p> <p>15. What measures do you make for people with small appetites/early satiety to ensure adequate food intake?</p> <p>16. The following are self-serve for the residents (6 options + other)*</p> <p>25. If you were a resident of the care home would you eat and enjoy the food on offer?</p>
Environmental factors	<p>6. I would describe the environment of the dining room in our care home as: (9 options + other)*</p> <p>9. Residents often have to wait some time for their meal.</p>
Social interaction	<p>24. Residents are often interrupted at mealtimes.</p>
Person-centred	<p>2. The menus account for different dietary requirements of the residents.</p> <p>3. We regularly discuss food preferences with our residents.</p> <p>4. There is often food leftover on resident's plates at the end of meals.</p> <p>5. The residents are often asked their opinions of the food and drink served.</p> <p>21. There are too many residents who need help to eat and drink for me to give personal care to everyone at mealtimes.</p>
Sensory appeal	<p>16. The following are self-serve for the residents (6 options + other)*</p>
Staff responsibility	<p>4. There is often food leftover on resident's plates at the end of meals.</p> <p>12. There are a wide range of drinks on offer ALL the time.</p> <p>17. It is common practice to monitor and record what a patient is eating all the time.</p> <p>18. If you do monitor and record what a patient is eating how do you do this?</p> <p>19. It is common practice to monitor and record what a patient is drinking all the time.</p> <p>20. If you do monitor and record what a patient is drinking how do you do this?</p> <p>22. I use the following techniques to identify patients who are not eating enough (5 options + other)*</p> <p>23. I carry out the above on all patients (Q22).</p>

Questions were based on two formats:

- A number of options could be chosen plus an opportunity to identify 'other' (highlighted by * in Table 6).
- Likert scales with the option to comment are shown in Figure 4.

Figure 4 Example of Likert scale from questionnaire

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

By using a Likert type scale based questionnaire, it was possible to gather and measure descriptive information to create replicability and generalisation within a population. It was a useful way to measure subjective opinion (Bowling 2009). These scales have the advantage of measuring beliefs and actions, therefore giving broad options to answer, reducing the risk of participants being forced to give inappropriate answers. They do however require a large number of participants to gain statistical power and it is not possible, if used on its own to allow new theories and concepts to emerge from the data alone, as they measure known phenomena. Cummins and Gallone (2000) highlight how the Likert scale has considerable flexibility. Scales have odd or even number of anchor points with a choice of descriptors. However, they highlight the psychological interpretation between the points and descriptors are not equal. Therefore, the scores need to be regarded as ordinal when managing the statistics. Shorter scales with five, six or seven points are easier to complete by the participant and have fewer response differences, although larger scales have been shown to be more sensitive (Cummins & Gallone 2000). The argument for scales is extensive in the literature and a pragmatic view was taken to apply a six-point scale. Sample size was anticipated to be small from the outset of this research, and by using uniform descriptors of agree and disagree, it would be possible to condense these for greater statistical power if necessary. Indeed, typically in mixed methods sample sizes can be too small to measure statistical significant differences (Collins et al. 2007). Care was taken not to make assumptions and not to ask repeat questions.

4.9.2 Interview protocols and observation protocols

Semi-structured interview protocols were constructed using open-ended questions based on the concepts developed using the initial literature review (summarised in Appendix 1). These are summarised in Table 7 and 8 and the full interview and observation protocols can be seen in Appendices 4 -6.

Table 7 Table to show the construct of resident and staff interviews from the concepts developed in the initial literature review

Concept	Resident interview	Staff interview
Food-service	How do you choose what you want to eat? What happens if you miss a meal? Are there snacks available? Do you have to ask for them? Are there drinks available all the time? What sort of drinks are they? Do you have to ask for them?	What is the availability of: <ul style="list-style-type: none"> • Food • Meals • Snacks • Drinks
Environmental factors	Where do you normally eat your meals? What is the atmosphere like in the dining room at mealtimes? Do you think the furniture is laid out well in the dining room? How would you do it if you were in charge?	Where do residents tend to eat their meals? Why?
Social interaction	Are you ever interrupted eating? Are you normally hungry at the start of the meal? Are you ever hungry at the end of the meal?	
Person-centred	In general do you ever leave some of the food on your plate? In general do you think the portion sizes are too big/too small? Do you get plenty of time to eat your meal? If you ever need help, do the staff help you? How do they do this? Do you find it difficult to eat with the cutlery they use here? Do you find it difficult to eat with the plates they use here? Do you find it difficult to drink from the cups and glasses they use here?	
Sensory appeal	How is the food served here? How appealing is the presentation of the food served here?	What are your opinions of how food is served here? What about the different equipment

	Does the food get served at the correct temperature?	available to help residents eat?, Are residents interrupted at mealtimes How easy is it to help residents at mealtimes
Staff responsibility		Have your thoughts changed about mealtimes since the training programme? Have you made any changes

Table 8 Table to show the construct of observation protocol from the concepts developed in the initial literature review

Food-service	Direct from kitchen Plated up Served up at tables Other
Environmental factors	Room type Layout of tables and chairs How are residents seated Make up of tables – table cloth, flowers, condiments etc Atmosphere – quiet, noisy, music, etc
Social Interaction	No. of interruptions Do staff assist residents and how Empathy of staff with residents
Person-centred	What specialist equipment available Is food easy to reach Is drink easy to reach
Sensory appeal	How are specialist foods (pureed/Texture modified) served How are residents requiring specialist diets monitored How are specialist diets delivered

4.10 Data Analysis

4.10.1 Staff questionnaires

Raw data was entered into Statistical Package for Social Sciences (SPSS) Version 23 (2015). Each participant was entered using an anonymous code. Variables were defined using codes, and data inputted manually from the paper copies of questionnaires. Data from the Likert scales was treated as ordinal data, because there

were no intermediate values between the scores. In addition, it is not possible to assume that respondents will perceive the distance between each anchor point as equal (Cummins & Gallone 2000).

Job roles were analysed for population frequency and presented as percentages in pie chart form. Distribution and response rates were reported by course, in percentages. Questions with Likert scale responses were presented in simple descriptive numeric form as percentages on bar graphs that showed the distribution of responses to the Likert anchor points. Where appropriate, the anchor points were presented showing the distribution along the continuum of strongly agree to strongly disagree, or by clumping agree and disagree responses together. These questions were reviewed and presented either by the total number of responses comparing relevant course attended, or comparing job role. In some cases, both course attended and job role were presented in separate bar graphs to ascertain any differences in opinion by these variables. Comments were considered alongside the thematic analysis of the qualitative data.

Questions that had a number of options - that participants could choose as relevant - were presented as percentages in bar chart form by job role. Pie charts were used to represent percentage of participants who responded to specific questions about the time between evening meal and breakfast, as well as the number of choices offered for residents on special diets.

Cross tabulation bar charts were presented to understand the relationship between the following:

- Hydration practice and the relationship between monitoring and recording drink consumption and whether there was a wide range of drinks on offer.
- The practice of monitoring eating and drinking.
- Whether there was a wide range of drinks on offer and the length of time between evening meal and breakfast.
-

Pearson χ^2 test was undertaken to establish whether a relationship existed between the job roles and course attended, as well as the cross tabulation relationships.

Although, the small sample size answering the questionnaire added additional insight rather than being able to draw conclusions from p values. A Shapiro Wilks test was undertaken to test for normal distribution of data. Each individual question showed the Shapiro Wilks test for normality of less than 0.05, showing all questions could be treated as non-parametric (Appendix 7)

4.10.2 Staff and resident interviews and observations

All interviews were recorded using a digital voice recorder. The interview data was transcribed to enable further familiarisation. Observation notes were created whilst attending the participating care home and written up as soon as possible after leaving. These processes of transcription and writing down gave an opportunity to become fully immersed within the data set enabling continual familiarisation from interview and observation stages and throughout transcription. The orthographic transcription phase followed the guidance of Braun and Clark (2013) to ensure verbatim recording of all verbal utterances with punctuation were adhered to in order to capture a representation of what was said through the words spoken. The interviewee and interviewer were differentiated in the transcript to signal who was speaking with new lines being started for new speakers. The conversation was recorded as spoken in order to capture interviewee expressions. Grammar and slang were not corrected. Accents and dialects were not deemed a necessary feature of the findings and not included, as they do not tend to add meaning, but abbreviations and vocal sounds were included for consistency. Motor tics, such as shrugging, were not recorded because they were generally regarded as being irrelevant to the interpretation of the data. Meanings and patterns were consequently easier to identify. Each transcript was reviewed once by re-listening to the audio recording to identify and amend any errors.

Each line of the transcript was numbered for later identification (see extract in Appendix 8).

Data analysis followed the principals of thematic analysis (Braun and Clark 2006, 2013) although 'analytical sensibility' was used to in order to provide insights into the meaning of the data. Three copies were printed off.

1. To keep for record.
2. Further familiarisation of the transcripts was developed through critical reading and actively taking note items of interest. At this stage notes were made on one set of copies to capture any ideas and thoughts. These notes and memos on the margins were used to start to develop the code book.(See appendix 11 for an example)
3. To cut up phrases, sentences and paragraphs and group together to further develop the codes using mind maps for each participant on flip chart size paper.

Complete coding was performed manually from these initial sets of ideas and notes and those that were formed during interviewing and transcribing. The aim was to

capture anything and everything that was associated with the mealtime experience. Data extracts were used in more than one way if relevant. The researcher must remain in control of the data analysis and therefore, detailed knowledge of qualitative data analysis is required. In order to be fully immersed in the data, and to engage fully in the process, the data was manually analysed as an iterative approach over months. Both latent and semantic codes were derived from the data. Each data extract was coded with a combination of letters, which were then amalgamated to form themes. This was done through a combination of notes on the side of the printed page (Appendix 11), memos (Appendix 10) and mind maps (Appendix 8) to establish the relationships between themes and sub themes. The researchers own ideas and feelings were consequently expressed and recorded. A subsequent phase of reviewing and refining of codes followed, to ensure all data sets were accounted for, and theoretical saturation from the interviewing and observations had been achieved (Braun & Clark 2013). The following stages were considered when developing the coding:

- Consideration of the actual words used and their meaning
- Consideration of the context
- Frequency of comments
- Depth of feeling of comments
- Changes in opinion as interviews progressed

The coding used is shown in Appendix 9.

These codes were used to develop the central organising concepts of themes that are associated with the mealtime experience. Patterns and relationships in the codes were identified to capture the concepts and issues enabling several codes to form themes and subthemes. Larger trends and ideas emerging were captured as themes in their own right. Boundaries to the themes were sought and where necessary sub themes were introduced in order to capture the richness of data. Themes were reviewed to produce thematic maps to demonstrate the interconnectivity of the named themes and subthemes around the mealtime experience. The initial formation of these themes is shown in Appendix 8 and further refined to form thematic maps which are shown in the results section of this thesis.

Finally, the interviews were revisited to ensure the data fitted into the existing codes and themes and to review all data sets had been captured. This building of the mealtime experience 'from the bottom up' ensured the conclusions emerged from the data.

The theory was cross referenced with previous prejudices and preconceived ideas. Authenticity is demonstrated through the rich narrative quotes from participants. These are shown in the results section of this thesis along with the thematic maps to show the relationship of the themes and subthemes of the mealtime experience for older adults living in residential care.

Relationships were accounted for in a theoretical manner, and the specific categories were reduced and integrated into a smaller number of theoretical concepts and compared to the literature in the discussion.

4.10.3 Integration of mixed methods data

The key requirement of mixed methods research is that data should be integrated (Woolley 2009) and the topic reviewed from different perspectives. In mixed methods, there are no defined ways of integrating the data collected from the quantitative and qualitative method (Bazeley and Kemp 2007; Woolley 2009), but the degree of integration is dependent on the aim and objectives of the study, and this should happen during the results and discussion sections (Cresswell & Plano-Clark 2011). In the case of this research, the data from the qualitative interviews and observations were analysed independently. The quantitative data was analysed separately. The results were then presented by displaying the quantitative results first followed by the qualitative data for all emerging sub themes in a side by side comparison. By taking this additive approach, it was possible to build a picture from the different strands. As suggested by Cresswell & Plano-Clark (2011), the discussion integrates the data sets, with the qualitative data being used predominantly to comment on the quantitative results in order to draw conclusions. Comparisons were made to explain differences and similarities in the two different data types confirming and giving explanations or contradicting the results from the different investigations. This flexible, iterative approach to the data analysis, writing of the results and discussion continued in tandem, in order to consider the final conclusions and framework. As the overall data had different but complementary roles, to achieve the project objectives it was summarised using an explanatory model in the conclusion.

4.11 Reliability and validity

Consideration needed to be addressed to the overall quality of the research. This can be termed as the reliability and validity of the experimental tools to ensure the truth is delivered (Denzin & Lincoln 2011). It is recognised this lays the foundations for research quality and rigor (Venkatesh et al. 2013). This research followed the normally recognised procedure of ensuring the independent validation requirements of

quantitative and qualitative research, before reviewing the mixed methods as a whole (Denzin & Lincoln 2011).

4.11.1 Reliability and validity of staff questionnaires

In quantitative research, two issues that must be addressed are validity (the extent to which the concept is accurately measured and can be replicated) and reliability (accuracy of the questionnaire) (Pilnick & Swift 2010). The focus was to eliminate bias via measurements and statistics by ensuring the questionnaires were distributed and collected in a standardised manner. The understanding of validation in quantitative research is long established and set procedures are in place to ensure findings accurately represent the real world (Venkatesh et al. 2013). Validity is the extent to which the concept is accurately measured and can be replicated. The three types of validity considered were:

1. Content validity is the extent to which the questionnaire accurately measures the concept and refers to the subject matter of the questionnaire (Whati et al. 2005). The construct of the questionnaire was considered, in order to fully represent the conceptual framework (see Table 6). The questions were reviewed and reflected on to ensure they were appropriate to cover the subject matter within this framework, and fully represented the literature review to ensure understanding of the mealtime experience.
2. Face validity is how reasonable the questions and overall questionnaire are for the target participants from the perspective of an expert panel. The researcher sought the opinion of two experts in the field of social care who were asked to consider the appropriateness, relevance and formulation of the questions in line with the conceptual framework. These were discussed with the researcher and the questionnaire edited to ensure all items were appropriate, and could be answered by the intended cohort and fully addressed the framework.

Construct validity is the extent to which the questionnaire distinguishes between different groups with known differences and measures the intended construct. This is the extent of inferences regarding causal relationships that can occur in the study (Venkatesh et al. 2013). With this in mind, student nurses with a different education, knowledge and experience (level 4 and 6 university students) were recruited to pilot and pre-test the questionnaire. The group of final year student nurses were chosen as they had worked in the care sector or on placement or previous work experience. This was an opportunity to test any logistical issues which might have occurred with understanding the tool, and establish how long it would take to complete. This group were regarded as being as similar as possible to the target population. This pretesting

of the adequacy of the questionnaire ensured the questions were worded in a manner that could be understood by participants and reviewed, if differences in responses occurred. The nurses were asked for feedback to identify ambiguities and difficulties answering questions. This ensured the words, terms and concepts were understood by future participants. As the questionnaire was developed by the researcher they must be aware of consistency and stability over time. This pilot contributed to ensuring the reliability of the study in terms of consistency. The data from the pilot was not included in the final results as the student nurses had not been on either of the two training programmes. Therefore their responses would contaminate the findings.

Reliability is the consistency of measure that ensures the questions induce approximately the same responses from the same participant each time it is completed. There are aspects of reliability that could be measured. Homogeneity or internal consistency is the extent to which all the questions on a scale measure one construct. The most commonly used measure of internal consistency is Cronbachs alpha, this can be used on questions that have more than one answer, such as a Likert scale, of which a score of 0.799 was achieved, showing good internal reliability of questions within the questionnaire (Whati et al. 2005).

4.11.2 Rigour of staff and resident interviews and observations

For qualitative data analysis the focus is on quality and rigour (trustworthiness) rather than validity and reliability, although guidelines are more ambiguous within the world of qualitative researchers (Venkatesh et al. 2013). The data should make every effort to represent reality (Fade 2003). A framework for trustworthiness is necessary to ensure the contribution of qualitative research to science and development of social enquiry. Validity in the traditional sense is impossible to measure as social circumstances cannot be recreated (Pilnick & Swift 2010). One of the issues around trustworthiness is discrepancy and merger between the qualitative methods and interpretation of the data, therefore this study used relevant elements of quality and vigour where appropriate to suit this mixed methods study (Denzin & Lincoln 2011). By using the interviews and observations as different methods of data collection, it was possible to corroborate the findings and gain a measure of validity, although inconsistencies and variations in the data were accounted for when reaching conclusions (Pilnick & Swift 2010). Attention was made to negative and positive cases. The construction of the conceptual framework and preparation of the semi-structured interview framework and observation schedule helped to focus on the validity of testing the research question (Draper 2004).

Quality of interviews and observations has been considered in order to represent reality and represent the truth (Fade 2003). Prior to conducting interviews the protocol was pre-tested on two people that were identified to have similar characteristics of the target study. The resident pre-test interview was undertaken with two older family members. The staff pre-test interview was undertaken with two care home managers that were known to the researcher through contacts within the social care sector. The purpose of these interviews was to assess the interview protocol rigour and address any errors in cross cultural language relevance and word ambiguity. No changes were deemed necessary following the pre-testing. Each interviewee contributed to the bulk of the verbal dialogue in order to capture all their experiences and understanding of the mealtime experience. Open-ended questions encouraged information flow from the participant to the interviewer. There were opportunities to reflect on the interpretation of the interviews as they progressed and ask for clarity in responses and further understanding of different matters raised by the respondents. Although every effort was made to do this when preparing and undertaking the semi-structured interviews, there were challenges encountered, particularly with the older residents who were frail and at times lacked concentration. Although some interviews revealed rich data discourse, other participants struggled to give depth to their answers. This was highlighted by Kirkevold and Bergland (2007) as characteristic of interviews with infirm, older people with decreased concentration. At the same time, it was considered important to gain a cross section of authentic views and opinions from the less conversant to more articulate residents.

Reliability refers to the degree of consistency of the coding by the same researcher on different occasions (Pilnick & Swift 2010). This was reflected on for consistency and bias and of not developing ideas sufficiently (Richards 2009). Considerable effort has been made over time to ensure ideas and constructs have been allowed to mature successfully into themes and categories from the coding. Codes were defined to ensure consistent application and these can be seen in Appendix 10. Sampling to saturation using thematic analysis helped to account for generalisability in order to develop the final framework.

Credibility was determined by extended contact with the care home and sufficient time to become completely immersed in the data, in order to capture fully the themes of the mealtime experience. Individual researcher worldviews and experiences can affect the analysis of qualitative data; faithful interpretation was required to ensure honesty and integrity were reported. One way of ensuring this could have been to return to the participants to review the transcripts and involving them in the drafting of the words.

The average residential stay in a care home is between two and three years (Forder & Fernandez 2011). Given the duration of this study and the frailty of the resident participants this participation would have been difficult or impossible, as well as time consuming. Only including care workers in this participatory approach would have contributed to uneven weighting and bias in the reporting. To some extent, this research was balanced and counteracted by being a sole interviewer, transcribing, typing, and reviewing the data, therefore being fully immersed in the data. Indeed, having one interviewer for the duration of the project helped to eliminate interviewer differences. Interviewer self-awareness and research dependability was enhanced by keeping all records of interviews and observations, data analysis and interpretation. Reflective notes were made after each interview and it was possible to refer to these as thematic analysis progressed.

A full audit trail was kept to ensure trustworthiness of the research. Audio records, transcripts, notes, coding, mind maps are available for peer review only in line with the ethical considerations of the Bournemouth University Research Ethics Code of Conduct.

4.11.3 Mixed method approach

Through the process of building the codes and themes from the different data from interviews, observation and statistical analysis results of the questionnaires, it was possible to merge the evidence. Validation in mixed methods is recognised by many of its advocates as a major issue (Tashakkori & Teddlie 2003; Creswell & Plano Clark 2011; Venkatesh et al. 2013). Tashakkori & Teddlie (2003) refer to inference quality for the term validity, more commonly used by Creswell & Plano Clark (2011). Inference quality overall refers to the interpretations and conclusions from mixed methods research. This is based on design quality and interpretive rigour. Design quality was assured in this research by adhering to best practice for a fixed convergent mixed methods design, as suggested by Venkatesh et al. (2013). Efforts were made to ensure the interpretive rigour of the holistic findings, by integrating the qualitative and quantitative strands to deliver an accurate and authentic conclusion.

Explanation quality determines the degree to which the data are interpreted consistently with the theory and current knowledge within the field (Venkatesh et al. 2013). The researcher needed to be aware of the evidence that is contrary to the established belief and real life. Trustworthiness had to be considered, and how the data and results were interpreted by the researcher and how the conclusions were applied (Halcombe & Sharon 2009). Evidence for themes diverged and included more

than just positive information, but these were used to explain and justify these deviations. Addressing inference quality when merging the mixed methods data helped to ensure the findings were credible, trustworthy and dependable (Collins et al. 2007). Inadequate convergence of the data and failure to discover all the relevant findings (Siddiqi et al. 2011) was addressed in line with the conceptual framework.

Language too, can be interpreted in different ways and is open to assumptions (Gilbert 2008). The differences between verbal responses and actual behaviour in the interviews could have been challenging for the qualitative researcher. In this case, mixed methods were used to corroborate the differences and enable the truth to form the conclusions. Respondents saying what they thought should be heard, for whatever reason, could then be verified using the observations at mealtimes.

4.12 **Ethical Approval**

Bournemouth University School of Health and Social Care Research Governance Group (RG2) reviewed the design of this research project at the School postgraduate committee on 20th February 2012. Ethical approval was granted and the confirmation letter is shown in Appendix 12.

The researcher had a responsibility to not only search and extend knowledge, but also to the subjects of their research (Bulmer 2008). Research must protect the welfare and safety of the participants, preserving the rights and dignity as human beings. Older people in residential homes are a particularly vulnerable group, due to their frailty, disability and possible deterioration in cognitive ability. During this research it was important to protect the confidences of the participants during the reporting stage.

Ethical approval is required for all research involving human participants to ensure investigations are conducted:

- To protect both researchers and participants personal details, identities and welfare.
- Data collected has the informed consent of participants.

It was the responsibility of the researcher to conduct the investigation morally, and give high value to the rights of participants, to ensure the research had value (Clough and Nutbrown 2007). Considerations such as the research question, participants, methods and analysis were taken into account when submitting this project for ethical approval. It was recognised the participants in this study had a right to know that they were part

of the study. To ensure anonymity and confidentiality, pseudonyms were used in reporting the data and have been used to hide the identity of the participants.

Informed consent

Informed consent underpins ethical principles in research. This clarified to the participant their right to take part or refuse, and their voluntary participation in the research. The researcher had responsibility to fully explain the nature and consequences of the research, including the purpose of the interviews, observation and completion of questionnaires. Information such as duration of the research, methods and possible risks needed to be included. Informed consent was obtained from all participants, and this required them to have the legal capacity to do so (Bulmer 2008). All participants in this study were chosen for their cognitive ability to understand the subject matter of the study, hence why it was decided to exclude those residents living with dementia. However, informed consent from older residents can be challenging to obtain. Hall et al. (2009) identified that residents may give informed consent to participate prior to the research; then forget about their involvement or feel too tired to participate. This was counteracted in this study by explaining the purpose of the research and obtaining informed consent just prior to the interview. This was done in a gentle, non-threatening way and the option of opting out at any time reinforced several times. At the interview, body language was particularly important to identify residents becoming awkward with participating. The initial contact for the qualitative research was always the manager of the care home, normally by telephone following a letter of introduction being sent. Their verbal consent was obtained before proceeding. An interview date was arranged, whereby the researcher attended the care home in question and gained consent from the manager or their deputy to observe a mealtime and be involved in interviews. The manager or their deputy selected a resident who they felt would be suitable for interview as well as giving formal written consent on behalf of the care home. The project was explained fully to the resident, anonymity and confidentiality assured, written consent obtained and their questions answered before proceeding for interview. Participant information sheets were made available for care home staff and residents at the same time. All consent and participant information sheets can be seen in Appendices 13-18. Staff expertise and knowledge was used to ensure residents were chosen who could give full informed consent and undertake a 45-minute interview. Interviews were terminated occasionally, if the resident became tired, ill or did not want to continue. The same procedure was used to arrange interview dates for care workers.

Informed consent was assumed, by completion of the questionnaires and this was clarified in writing to participants.

Safeguarding

Safeguarding and protecting people's identities and research locations are another requirement of ethics codes of conduct. Confidential data was kept securely in a locked office. Anonymity of individuals and research locations have been assured in this study through statistical aggregation, pseudonyms for individuals who were interviewed and by not identifying care homes.

CRB clearance was gained before data collection started.

4.13 Risk assessment

As part of the research review process harm to researchers and participants must be avoided. A full risk assessment was undertaken to address any possible problems that might occur. The risk in this study was regarded as minimal and was communicated to the participants via the previously described channels. Food and drink topics were unlikely to cause psychological upset but consideration was given to this. Care was taken to address the researchers' physical and emotional safety in light of being a lone researcher, supported through the doctoral research process by Bournemouth University Doctoral College. Lone working was a pertinent risk in this study and applicable when undertaking interview methods for research. Travel to the research sites was addressed and an independent person was always notified of the travel details and venue being visited. Although all interviews were conducted in care homes, some were undertaken in participants' rooms and offices. Efforts were made to reduce risk by leaving doors open and interviewing in a public area where possible.

The full risk assessment is shown in Appendix 19

5 Results

5.1 The participants

Table 9 Course attendees, their job role and corresponding residents details who participated in interviews.

Course attendee and job role	Course attended	Residents details
Janet Manager	Nutrition	James and Ellen Older married couple
Beatrice Owner	Nutrition	Josephine and Angela Older ladies
Helen Owner	Nutrition	Doris 90 years old
Lynn Manager	Nutrition	Vera Older lady – very limited mobility, rarely left her room
Kitty Manager	Nutrition	No resident interviewed
Mary Manager	Nutrition	No resident interviewed
Claire Manager	Dignity	Betty Older lady been in residence approx. 9 month Nancy older lady who had been in residence about 3 months
Gillian Manager	Dignity	Frank Interview terminated
Philip Care worker	Dignity	Madge Elected to come into care home when large house became too big for her
Jean Care worker	Dignity	NONE
Vicky Team leader	Dignity	Bill Older man – very frail in wheelchair
Lisa Deputy manager	Dignity	Lois Older lady who had moved to be nearer daughter
Liz Manager	Dignity	Pat Limited mobility and rarely left her room
Micheal Manager	Dignity	Heidi Older lady who chose to eat her meals in her room
Greta Deputy manager	Dignity	Alice 94 year old lady who was very frail and not eating well (interview terminated)

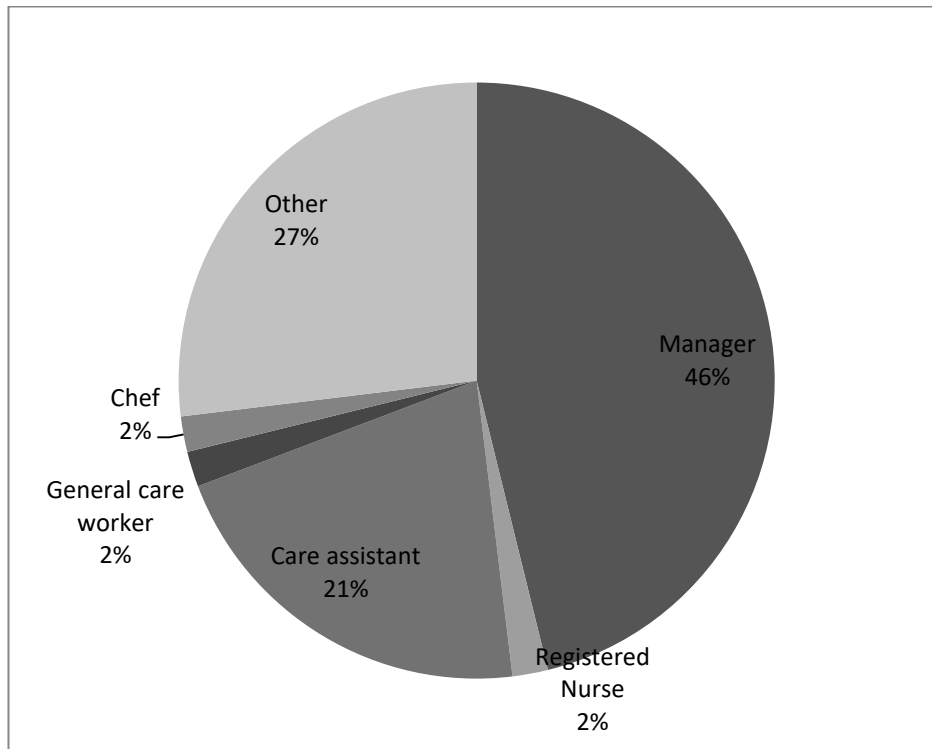
Note: To ensure anonymity and confidentiality pseudonyms have been used to hide the identity of the participants.

Table 10 Care home ownership, location and number of beds who participated in observational research and from where interview participants lived and worked.

Coding	Care home ownership	Building	Kitchen location	Location	No of beds
1	Private Residential Care Home	Extended house	Separate room but next to dining room	Bournemouth & Poole	23
5	Private Residential Care Home	Extended house	Separate room but next to dining room	Bournemouth & Poole	25
9	Private Residential Care Home	Extended house	Separate room but next to dining room	Bournemouth & Poole	15
10	Private Residential Care Home	Extended house	Separate room but next to dining room	Dorset	15
20	Private Residential Care Home	Extended hotel	Separate room but next to dining room	Bournemouth & Poole	27
21	Private Residential Care Home	Extended hotel	Separate room but next to dining room	Dorset	19
22	Private Residential Care Home	Extended house	On same floor but away from dining room	Dorset	15
23	Private Residential Care Home	Extended house	On same floor but away from dining room	Dorset	15
24	Residential care home –larger organisation	Extended house	On same floor but away from dining room	Dorset	28
25	Private Residential Care Home	Converted and extended house	Serving hatch directly into dining room	Dorset	40
41	Private Residential care home	Converted house	In basement some distance from dining room	Bournemouth & Poole	25
42	Residential care home –larger organisation	Purpose built	On same floor but away from dining room	Dorset	62 (although less than 2/3 occupied)
43	Residential care home –larger organisation	Purpose built	On same floor but away from dining room	Dorset	60
51	Residential care home – part of larger organisation	House	Integrated with dining room	Hampshire	8
52	Residential care home –larger organisation	House	Separate room but next to dining room	Hampshire	7

Tables 9 and 10 represent residential homes with older residents; none were specialists in specific care. The researcher deferred the decision of which residents to interview to the care home manager, in order to ensure all residents interviewed could give informed consent.

Figure 5 Job roles of the participants who completed the quantitative questionnaires



(n=52)

Figure 5 shows 48% of participants were either registered nurses or manager of the care home and 23% were care workers and assistants.

Table 11 Distribution and return rates of quantitative questionnaires

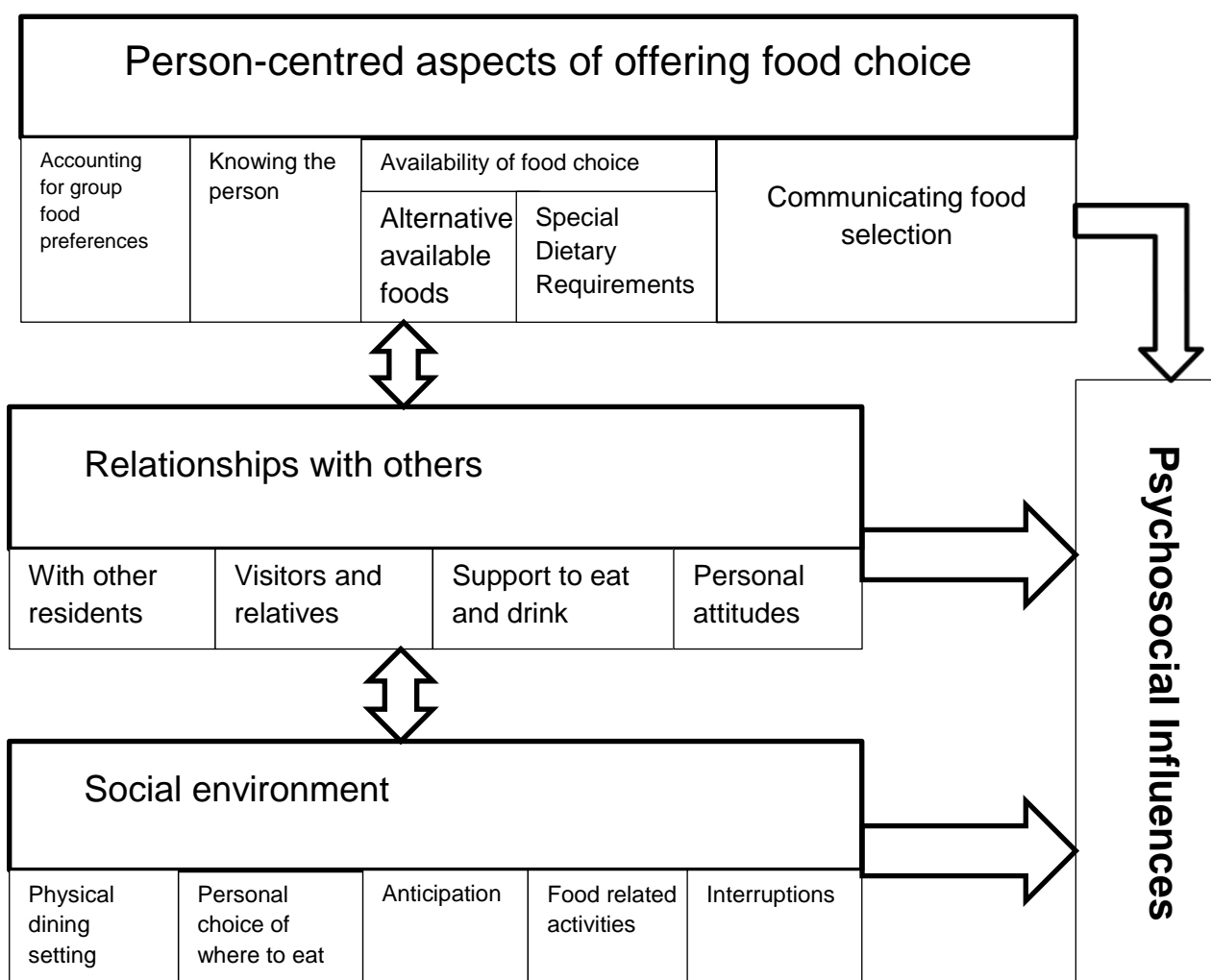
	Number distributed	Number returned	Percentage returned	Total number returned per course
Nutrition course				
Course 1	24	5	21%	
Course 2	20	15	75%	20
Dignity course				
Course 1	8	4	50%	
Course 2	8	4	50%	
Course 3	8	8	100%	
Course 4	8	8	100%	
Course 5	8	8	100%	32

Overall response rate 62%

5.2 Exploring psychosocial aspects of mealtime experience

The data are presented along the thematic descriptors that will be used to construct the theoretical model. The quantitative data are presented where relevant at the beginning of each section. The qualitative data are presented within each category in the order: observations followed by interviews from residents and course attendees simultaneously.

Figure 6 Diagrammatic representation of the qualitative themes of psychosocial influences of the mealtime experience, comprising of person-centred aspects of offering food choice, relationships with others and social environment.

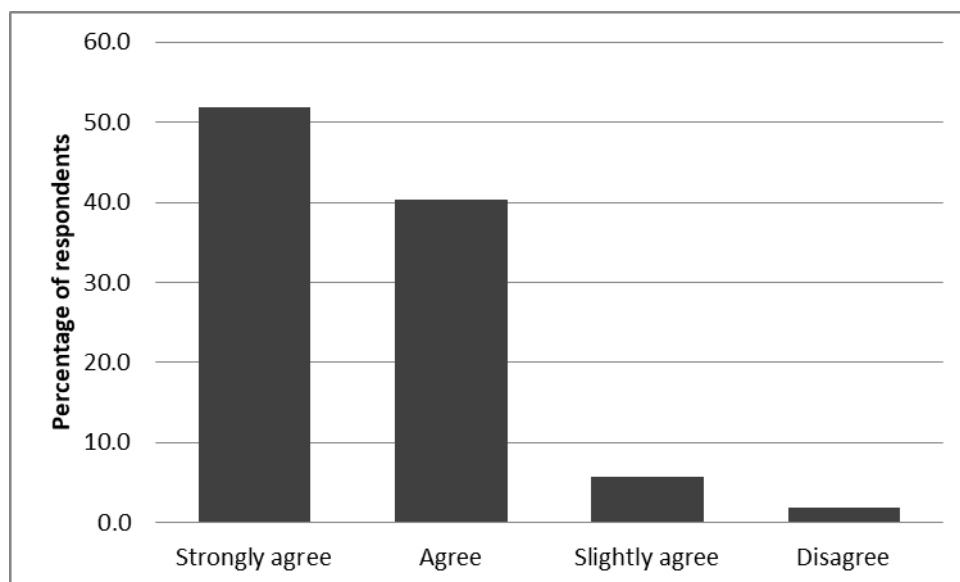


5.2.1 Person-centred aspects of offering food choice

5.2.1.1 Accounting for group food preferences

Figure 7 Percentage of responses to the statement 'We regularly discuss food preferences with our residents'

(n = 52)



Although 92.3% of respondents agreed or strongly agreed they regularly discussed food preferences with residents, how this was achieved to establish menus and its effect on actual food choice varied between care homes. Two care homes in the study were observed to be less adaptable in the menu planning with set menus originating from central sources (24, 42); these homes appear to have more complex procedures that give less flexibility on a daily basis. In these homes, the kitchen staff were less visible at mealtimes, and there seemed to be a clear divide between them and the care team. This could cause difficulties for preferences to be flagged up to kitchen staff and accommodated easily; therefore potentially impacting on the mealtime experience for residents.

Two homes (1, 42) had adopted a group approach, whereby residents were asked to discuss meals and suggestions at regular residents' meetings. Open discussion of the meals was encouraged within this forum. Suggestions were noted and brought in to the menu plan. Care home 1 was a small home, where the (friendly) staff had tried this open approach by listening to individual residents and aiming to give everyone consideration. This care home was able to offer adaptability, by giving space to include

one-off meals and extra preferred foods, by individual residents in addition to the group meetings:

“We can then take extra suggestions from the residents and that is sort of how it has gone.” (Janet, manager, nutrition course)

This inclusive approach allowed the suggested preferences to be considered as a component of residents inputting into the menu plan. The manager, chef and other staff were very visible, and during my visit reported that they take the time to enable residents to voice their opinions:

“We had a follow-up meeting on 10th July to see how things were going and yes, it did seem to have been well received. We then asked them to make further suggestions how we could tweak things further still and to focus on desserts instead. I sounded them out on a few ideas, one was roast duck – No they did not fancy that, I thought, well, I’m glad I asked. Then they came up with other ideas like Cornish pasties from time to time” (Janet, manager, nutrition course)

However this manager acknowledged a key disadvantage with this approach: In a group setting it can be the more confident, opinionated residents who voiced their preferences:

“We had a meeting and one of our more outspoken gentlemen kicked off and said we have far too many roast dinners.” (Janet, manager, nutrition course)

Another disadvantage was highlighted by another resident who commented that these forums can become negative experiences as they also give an opportunity to complain about the food as well as offering suggestions:

“We do have residents’ meetings every month we say our do’s and don’ts and our complaints which there are plenty of - some people are never satisfied - but me I am quite happy with everything.” (Madge, resident,)

Informal conversations with residents gave staff an accessible approach to understand menu preferences and ideas of residents. In a number of homes, the chef came out to talk to the residents at the end of the meals and ask them their opinions of food. This opportunity gives the chef direct feedback, at the point of delivery, when the meal was fresh in the residents’ minds. It enables the chef to become part of the care team and allows residents to become involved and feel they are contributing towards the running of the home and particularly the mealtime experience which they appreciated:

“Yes, well I know her (the chef) quite well and she comes up every so often to see me and she knows that I’m able to tell her what we like and what we don’t like and so on and so I give her some ideas anyway.” (Alice, resident)

Relatives were considered to be an important source of information for finding out generic residents’ preferences and inputting into the menu. Their experience of the family member enabled input in a constructive manner, which gave them an opportunity to input into the care of an individual resident:

“We’ve started on the menu review.....We’ll next be talking to the relatives because in half the cases we need the relatives input.” (Micheal, manager, dignity course)

One resident highlighted that they were not given the opportunity to share their ideas with any members of the care staff. This resident came across (unenthusiastically) as a passive care receiver in a home where the manager was not often visible:

“There is not a lot of communication about that (Influence menu ideas) I sometimes think there should be more... The manager, the boss man, he doesn’t come to see me normally. I don’t mind.” (Lois, resident)

Some residents were aware that they were living with a group of other people and everyone’s needs had to be accommodated. At times, this meant it was not always possible to have foods they were accustomed to. One resident was unhappy that there was a lack of her preferred foods on the options of the daily menu:

“I have to tolerate it because I know they can’t do the things I like, like pastas..... You don’t choose you get what’s put in front of you. The only thing I can choose is breakfast.” (Nancy, resident)

5.2.1.2 Knowing the person

Care plans were reported to be prepared in all the care homes where the qualitative interviews and observations were undertaken in accordance with national guidelines (NICE 2015) - which recommend recording of individual needs and preferences through these care plans. These were prepared when either residents first arrived or prior to their arrival, for example from hospital, by consulting residents and those close to them. These were reported to include all individual food preferences. This study showed that relatives’ contributions into care plans are an important source of information for staff to determine individual food likes and dislikes:

“Then when they arrive we have the assessment as well and they say what they like and what they don’t like and residents can say as well.” (Lynn, owner, short course)

*"I do a pre-assessment in hospital but I don't go into that much depth and then when the nurses are unpacking E**** into her room and spending the quality time with her we will sit down and spend time. If that doesn't work then we go to the family and work out likes and dislikes."* (Liz, manager, dignity course)

It was less obvious that these care plans were updated as new knowledge was learnt about the residents or if food preferences changed. One carer at a home commented, as a result of the training, she had realised the importance of up-to-date care plans, indicating that up until that point they had not been updated on a regular basis:

"Also how important it is to make sure the dietary section of our care plans is up to date to find out exactly what residents do and don't like." (Lisa, deputy manager, dignity course)

This was particularly important, as the research has identified that individual residents' preferences change, as they are exposed to different foods and terms within the care home:

"Yesterday for instance we had a goulash – well I hadn't had that before but I try everything that comes along and so far I have managed to eat everything and enjoy it." (Ellen, resident)

"She never used to eat curry or a sweet and sour, but now the daughter comes in and says what did you give my mum to eat she enjoyed it so much, we do tell her what it was but she is a bit forgetful, and her plate came back empty. Most of them most of the time their plate comes back empty." (Lynn, owner, nutrition course)

Additionally, admission interviews might be affected by external factors, such as the challenges faced by individuals prior to arriving in the care home, leading to them becoming insular and with reduced food choice. This can impact on their immediate perceived food preferences and decision-making - which was highlighted by one manager:

"People get very withdrawn at home. The thought of living on your own and keeping your independence is important but it becomes a farce as they are often not independent as they have carers coming in or they rely on neighbours. They are much more independent here where they can tell us what to do. They are paying for it they are in charge. Often they arrive and they can't make a decision, whether to have soup or fruit juice and then once they are here they can be encouraged to think again and get the brain chugging along." (Gillian, manager, dignity course)

Cognitive degeneration can change food preferences, although specifically outside the scope of this study, many residents in the participating care homes had mild cognitive impairment and this would have to be a consideration for the staff when providing food for all residents:

"As we move to full on dementia care home we are also thinking about food for them. I want to be able to offer lots of proper meat and not just casseroles and

mince so we are reviewing what we give them and asking staff to be aware to help chop food properly as well. We want to retain choice. We have always been about personal choice and adapting things to suit individual needs.”
(Claire, manager, dignity course)

Residents’ food preferences were influenced by their individual life experiences. Each resident would be different within a large group within the care home contributing to a wide variety of food preferences for staff to manage:

“He has lost his sight.....he was in the war, I didn’t like the war I had to put up with that..... That was out in India.....Ooh he came back it was curry curry curry.....I love my curries, I went on a boat once they used a 7 pound tin of curry powder on the boat a day.” (James and Ellen, residents)

“I still feel, I was nursing all my life, I still feel the old ways were a lot better, you see gravy is very nutritious if it’s made properly. I knew a man in the workhouse, he never had a solid meal in his life, he couldn’t his throat and that had gone wrong and he was still alive when I left and you can live on gravy....”
(Bill, resident)

One manager was confident she could identify food preferences of individuals and felt she could predict food choices of residents at mealtimes:

*“I could tell you what all my residents like and dislike but I could also tell you maybe what D***** would choose today for lunch out of a choice of one, two or three. We know.”* (Liz, manager, dignity course)

This was recognised by this resident from a care home that had 14 rooms and reported good staff retention; the security of being known to carers appeared to positively impact on the mealtime experience:

“And the girls get to know your likes and dislikes.” (Madge, resident)

5.2.1.3 Availability of food choice

Alternative available foods

It was observed that meal alternatives were often presented as a matter of course, as soon as residents expressed they did not want the meal on offer or even before. Residents would declare they no longer wanted that food and an alternative was brought directly from the kitchen. It was unclear how these alternatives were determined, for example, was there a default food that was presented to all if they reject the first offer, or were individuals offered different foods depending on information in the care plan. Carers did respond quickly to residents’ wishes that were either stated verbally or in some cases through other expressions. This was confirmed by one of the care home managers:

“What we are trying to do in the future, we used to have two menus but we are only a small care home but it didn’t work out as one day you can ask them what they want now and the next day they change their mind. But what we do now is let’s say if someone doesn’t eat lamb say like we are doing a roast lamb, one of my residents doesn’t eat lamb so then she has salmon.” (Lynn, owner, nutrition course)

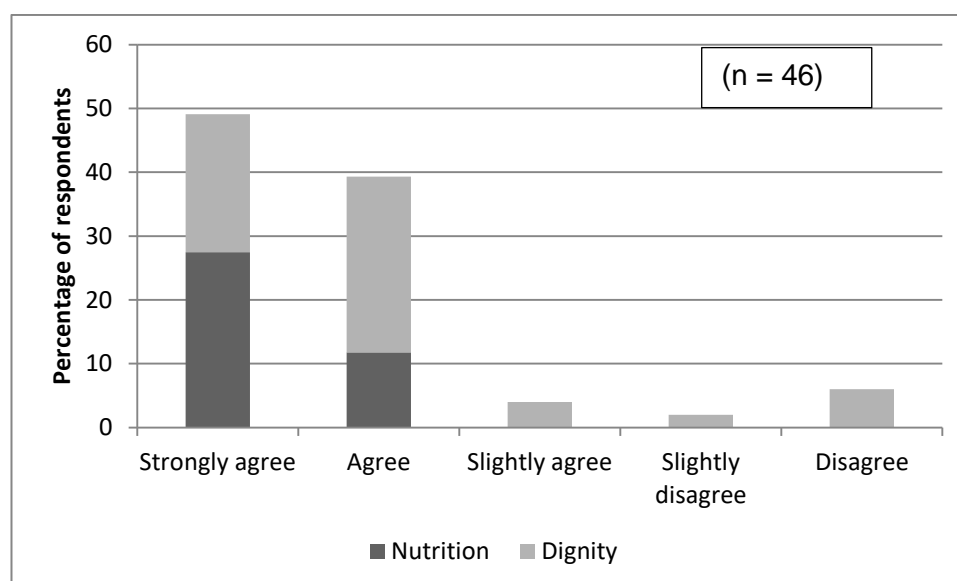
How these alternatives are clarified to new residents was unclear. A number of residents acknowledged that they would be offered an alternative if they did not want the first offer, which was regarded as positively affecting the mealtime experience, but they seemed to have little input as to what this was:

“If you don’t like that, there they will find a reasonable alternative you know.” (Betty, resident)

“..so I don’t often have to ask what the alternatives are but occasionally I have asked and there is always a pasta bake or something cheeseey.” (Lois, resident)

Special dietary requirements

Figure 8 Percentage of responses to the statement ‘Menus account for different dietary requirements of the residents’



From Figure 8, 84% of respondents agreed to some extent that menus accounted for different dietary requirements of the residents. Those who disagreed with this statement were all dignity in care attendees, although the differences between the responses from staff who attended the two courses was not significant ($p=0.110$).

Figure 9 Percentage of number of choices residents who are following a special diet have on the menu for their main meal.

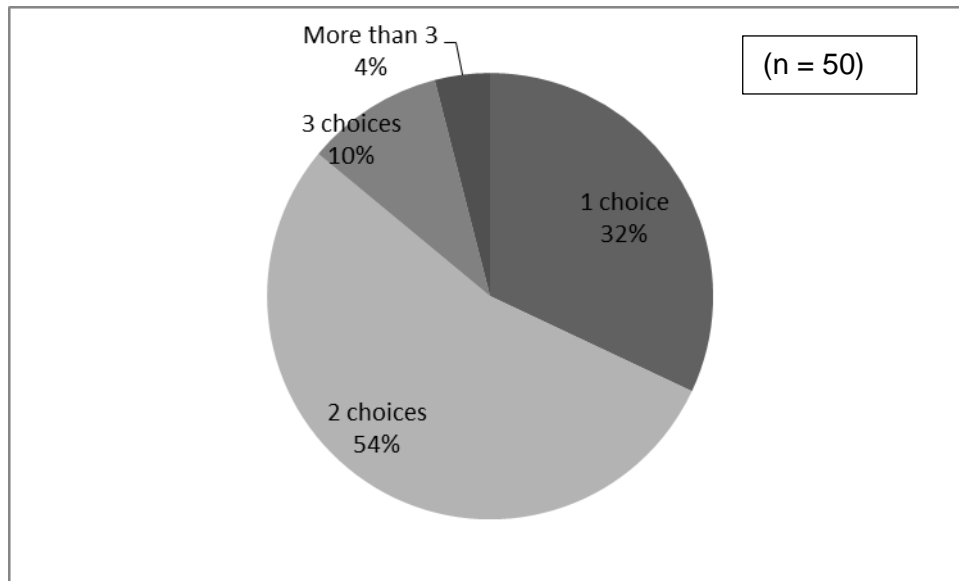


Figure 9 shows 32% of respondents replied that only one choice was available for those with special dietary needs and another 54% had two choices. However, specific dietary requirements, due to long-term health problems, impacted on the variety of foods residents had available to them. Not being able to eat certain foods can impact on food choice availability, whether perceived or real. It was challenging for care staff to determine and understand why foods were not being eaten, possibly due to lack of staff knowledge and staff generating uninformed decisions about individual food preferences. An example of this was seen during the mealtime observations. A lady was not eating her meat and the carers tried to persuade her to eat, but on refusal they concluded that she must be ‘turned vegetarian’. No other possibilities were discussed such as poor dentition, mouth sores or swallowing issues which could have impacted on the mealtime experience.

A further example of the challenges of understanding what was causing food not to be eaten is highlighted by this manager; she had identified an issue of a gentleman not eating, but due to communication difficulties she found it difficult to identify the cause:

“...so we’ve obviously got a problem there to try to sort, but we’ll get there, we will but it’s just trying to sort out what’s stopping him eating it.” (Greta, deputy manager, dignity course)

One resident recognised her difficulties of eating certain foods but did not explain why;

"I can't eat hard food that's difficult to eat like fish and chips or anything like that." (Heidi, resident)

The more complex the dietary requirements of individuals the less choice seemed to be available. This was especially so for the snack availability. One care worker was particularly concerned about offering choice to her residents following the dignity training she had attended. The resident concerned had diabetes and was not offered any alternative when other residents were given sweet foods:

*"I feel R** has missed out over time. This new chef gives him his diabetic ice cream and everyone else has a wafer in theirs but R**** now gets a diabetic biscuit in his..... He doesn't want jelly and cream everyday." (Vicky, team leader, dignity course)*

His reaction was complex, as he understood his health needs, but did not want to watch others being offered desserts and sweets that he wanted:

"They say Mrs Jones do you want a cup of tea and a bit of cake and they parade this up and down and I can't touch it and I think..... Oh no I don't get anything, I can ask for it, but they don't give it to me. No I'm not included, although now is a little bit better they slip me a banana now and again but I'm quite happy very contented." (Bill, resident)

Interestingly, perceptions of reported choice from care staff did not tally with residents' perceptions. One care home reported that they always had a choice for those with Type 2 Diabetes however on further questioning with residents it became clear that this was one choice and always the same:

"There is always fruit salad for the Diabetes people that's always on offer and then there is something, well, with summer fruits this time of year." (Lois, resident)

Providing any form of choice for those with specific dietary requirements was highlighted as a challenge by one care home manager who ran a smaller care home. This was particularly the case, when there were a number of different needs that need to be accommodated:

"We have to take into account different diets - we have two vegetarians, one gluten free and four diabetics. It takes quite a lot of organisation to make sure we give everyone some choice." (Claire, manager, dignity course)

Residents struggle with diets that may be new to them, due to recently diagnosed health problems. Having to come to terms with new ways of eating or foods that are not allowed to be eaten can be challenging for residents, as identified by one member of staff whose primary focus was to encourage residents to feel included:

“It’s also hard for residents. This lady who is now on a high fibre diet, she never ate breakfast for years but we have had to persuade her to eat one slice of brown toast and a banana but she struggles. I watched a documentary on care homes the other day. They had a coffee trolley the little lady called it her Sue trolley and she had made it and it had diabetic cakes, high calorie cakes, fruit, lactose free milk all these fancy things she had a big care home with different dietary requirements and we should try and do something like that so people don’t miss out.” (Vicky, Team leader, dignity course)

One care home manager highlighted the challenge of dealing with someone who was deteriorating with losing weight. This provider felt under pressure to deliver a healthy meal which met the auditor guidelines, and yet, faced the dilemma that the resident concerned only wished to eat sweet foods:

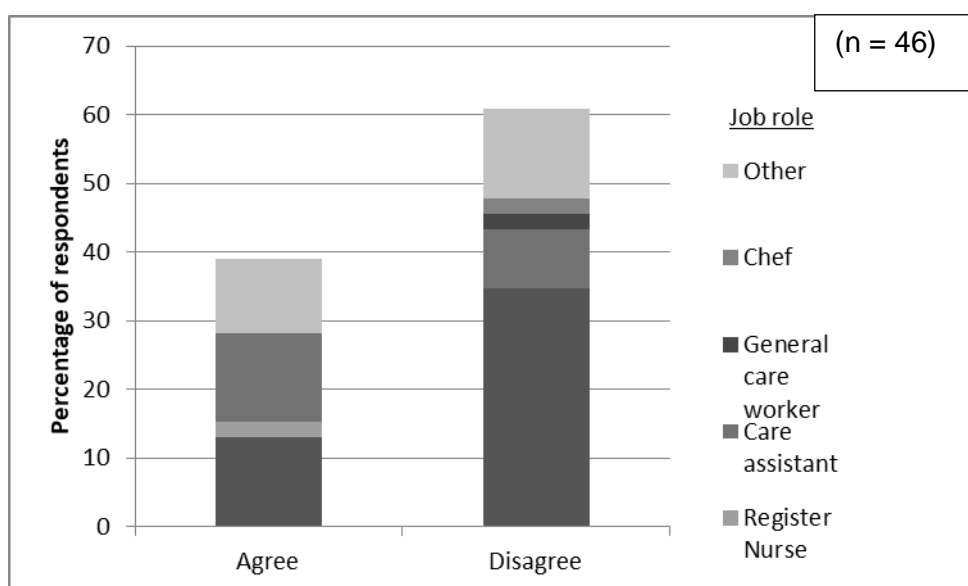
“She loves chocolate mousses, crème caramels and we give it to her, why not she gets what she want but not sure what CQC would say about that.” (Lisa, deputy manager, dignity course)

5.2.1.4 Communicating food selection

Time

Figure 10 shows that 39% of respondents agreed that residents make their meal choices in the morning for all meals that day, although there was no difference between opinions of people with different job role ($p=0.565$). It was not clear from the question asked, when in the morning, or other times of day or even the day before, the food selection decisions were made and this appeared to vary from the interviews.

Figure 10 Number of responses by job role to the statement 'Residents make their own meal choices in the morning for all meals that day'



Most care homes had a formal system of residents pre-choosing their main meal choices. When they did this, varied from lunch time the day before to shortly before meals were served:

"I choose when I arrive in the morning, these people they choose the day before I think. I walk in here I put this here and go to this cabinet and put the details on a piece of paper." (Lois, resident)

"In the day, they come and tell you it's so and so and we choose what we want...." (Doris, resident)

Timing of when food was selected appeared to be largely task-driven, led by established processes of kitchen staff. Residents were largely accepting of when they had to choose and nobody was critical of having to choose the previous day:

"When breakfast is brought in the morning they have a plastic thing and they ask you what do you want or like for lunch, they have that written out and you say what you would like." (Madge, resident)

"We are always asked the day before given the choice. It's a limited choice with two main meals and some desserts but yes there is a choice." (Pat, resident)

However, one resident who chose his meal from a selection only an hour before lunchtime was aware of how annoying choosing earlier could be and appreciated the positive influence on the mealtime experience of this late decision-making:

"It's not one of those awful situations where you have to say at breakfast time today what you want to eat tomorrow night. No it's literally about an hour before maybe an hour and a quarter so you can judge by what you are feeling yourself"

rather than what you think you might be feeling in some time in the future.”
(Frank, resident)

One manager reported that they had always asked residents to choose their meals early as the system enabled costs to be controlled and diets to be managed. She had been challenged on this method whilst on the dignity training course and had reflected on its benefits and drawbacks:

“We always ask the day before and I’m questioning that now and I’m thinking why can’t we ask them in the morning. There was one girl on my table (on the dignity course) who does that and I asked how do you get the portion control right the amounts right so you don’t waste. So from the menu choices you are not too heavy with one thing and not use the rest but I’m thinking about that and made me question my practice here.” (Liz, manager, dignity course)

Some care homes were starting to consider a system whereby residents choose their main meal at the point of delivery. One care home identified the benefits of this direct food choice as outweighing the challenges. Once embedded in the system, wastage would not be an issue as the majority of residents’ food choices can be predicted:

“The change that we have agreed that is probably starting on Monday I spoke to the chef today and we’ve talked about it for some time and that is to do choice at the time of eat whatever you would call it. At the moment we do menus the night before and I won’t be suspending these menus we let that overlap for a bit but the reality is they will be offered two plates of food, do you want this or that and there will be some movement from the night before but I am also hoping it will work better.” (Micheal, manager, dignity course)

One care home manager highlighted the issues of residents being indecisive. It was recognised the decision to come into a care home is substantial for older people, and often individuals have struggled on at home until a critical incident has forced them to move into care. This indecisiveness impacts on their ability to choose what to eat:

“I just feel that when people move in their circumstances have become more and more limited so you have to nurse them forward from that point. Some people can’t make a decision at all.” (Gillian, manager, dignity course)

Method

Figure 11 Percentage of respondents, attending the different courses, who presented the menu in different formats for those residents living with dementia

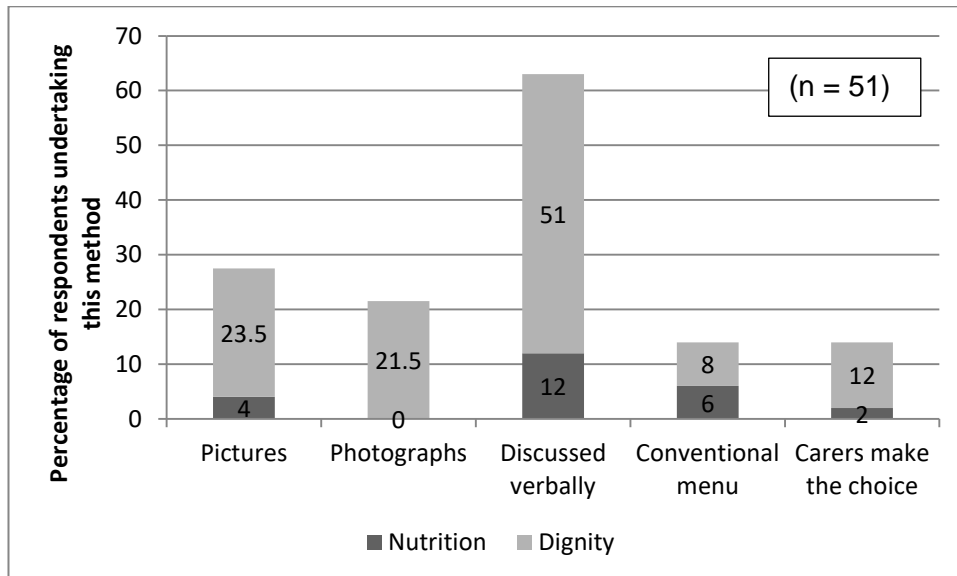


Figure 11 shows how the menu is conveyed to residents. 63% of respondents discussed verbally with residents. Only those attending the dignity course reported using photographs, which is statistically significant ($p=0.003$). Additionally, those attending the dignity course were more likely to present using pictures ($p=0.025$) and verbally ($p=0.00$). Whereas there is no difference in practice when delivering conventionally ($p=0.832$) and carers making the choice for residents ($p=0.146$).

The interviews too highlighted how the method of making menu choice for residents varied from home to home and how this was presented. Care homes seemed to focus on having different choices available for main meals, although the visibility of what these were and how they were presented to residents varied. Observations showed some homes presented on special chalk board written up in the morning, others had paper menu choices with tick boxes that were returned to the kitchen, and others had the weekly menu plan posted up on notice boards around the home. No one was observed reading the latter presentation format during the researcher visits. Another manager was reviewing presenting the menu and choices as pictures:

"I thought that worked very well in Holland and at the moment we show the menu in the lounge, reception but I would like to present it in the same way your students do. Also I would like to create a whole page of different vegetables and when we are explaining what vegetables are on offer today then we can show them pictures of them. We use a lot of fresh vegetables in season and so

don't have things on a regular basis so that way as we move to a full dementia care home we can show the pictures easily." (Claire, manager, dignity course)

5.2.2 Relationships with others

5.2.2.1 With other residents

Residents varied in their level of interaction and willingness to socialise with other residents at mealtimes. 74.5% of staff regarded the dining room as sociable and indeed many of the homes (1, 5, 10, 27, 22, 23, 25, 41, 51, 52) had tables where groups of residents were encouraged to sit together. How the residents interacted during mealtimes varied considerably and again, from observation, many residents sat quietly focusing on eating and drinking. Two care homes (24, 25) were observed to have very sociable and chatty tables. Some staff seemed to encourage the use of the dining room but if residents chose to eat in their rooms then they would respect this decision.

In contrast to the quantitative findings from staff, residents varied in their opinions, from the interviews, of how sociable the dining room was. Some of the residents recognised the need to be flexible and easy-going to accommodate obvious frailty and disabilities of their contemporaries:

"We just get on with it, we sit next to each other sometimes it goes a bit quiet as people are eating it's not the same bless them there are so many different things wrong with them so we are fed accordingly." (Ellen, resident)

It was recognised that some residents interacted together better than others. Small friendship groups formed and they enjoyed having mealtimes together. Outside these friendship groups some of the residents were regarded as being difficult or awkward:

"Most eat in the dining room but we don't there are 4 of us we eat out here in the conservatory.... There are some awkward customers in the dining room they upset things." (Josephine, resident)

"I like the company of the people I know and some of the people there are obviously not exactly compus mentus - they are a bit lacking - there are some who are a bit difficult or noisy so that's something that could be changed but it would be difficult with the people who are here. I didn't realise when I came." (Lois, resident)

In some care homes, the number of residents who were regarded as causing disturbances and being disagreeable seemed to have an unconstructive impact on the social participation at mealtimes and consequently the mealtime experience:

"If I don't feel well then I have my breakfast in my room but I like to come out and sit at the table and eat my dinner, although I won't sit at the table over there, they can be difficult there and it's not so pleasant, I prefer to be on my own at one of these chairs." (Doris, resident)

The causes of these disturbances were not discussed by either the residents or staff interviewed, although one resident alluded to dementia being an underlying issue:

"My family never realised how much dementia there is. I hadn't realised it until I came her. .Some people would drive the patience of a saint I am not sure how they put up with them." (Nancy, resident)

The advantages of eating a meal alone were recognised by residents who chose to eat in their own rooms. The difficulty of having to be sociable and talk to others was highlighted by this resident:

"I eat in here yes which suits me that's what I choose. I much prefer to eat in my own environment rather than to sit and try to make conversation with people, well you know." (Frank, resident)

The ways residents interact with each other was largely unrecognised by managers, although one manager recognised the awkwardness eating in company can cause and the need to be helped discreetly in order to support the mealtime experience for these individuals:

"People sit on their own.....It gives people their own space.... I do occasionally move people but only by negotiation first and they are close together so they can talk as there is a lot of deafness so it's no use expecting people to hear..... When eating becomes a problem then the odd resident eats with us in the kitchen." (Gillian, manager, dignity course)

The difficulty of being sociable, due to sensory impairment, either by not being able to hear or create conversation was highlighted by another resident:

"We chat sometimes, although there is not always a great deal to chat about and it depends a bit how the people are. One of the ladies who sits at our table is not a great conversationalist and she is not terribly well either so she tends not to contribute very much. But I sit next to a gentleman as a rule and I believe he is approaching a hundred but you would never believe it. He is very nice to talk to and we get on very well together." (Lois, resident)

The challenges of first arriving in a care home were mentioned by one manager, who spoke of the anxiety of leaving one's own home, having to share your living environment and socialise with strangers:

"I can remember when she first came here she was so upset, very tearful wanting to go back to her house and the thought of mixing with people having to mix with people you don't know." (Greta, manager, dignity course)

5.2.2.2 Visitors and relatives

Mealtimes could be an occasion for residents to entertain visitors. Different care homes had different policies for allowing visitors into the care home at mealtimes. Many appeared to actively encourage visitors at any time of the day, but some did not offer them meals if they arrived at mealtimes. Informally, staff indicated this was for budget reasons and might be related to funding issues. Two care homes (25, 41) had visitors join residents at mealtimes, but they were not offered any meal or beverage. One of these visitors had brought in fish and chips for his older mother. They joined the person they were visiting and sat and talked. One care home (21) actively encouraged visitors at any time and this was reinforced by enabling them to join the resident for a meal or drink. This was appreciated by the resident interviewed:

"Another thing that is so good is if someone comes to visit you then there is never any problem giving them lunch or whatever even if it is at the last minute, there is always loads of food." (Frank, resident)

The social element and connection with the world outside the care home was recognised:

"We encourage them to have visitors in. I do feel visitors should be warned as they do tend to sit and stare at visitors so they need to be fairly thick skinned. We don't charge for that because that's all part of continuing your normal life its encouraging them to have a normal life and it's about what they would like their normal life to be." (Gillian, owner, dignity course)

More commonly other care homes appeared to encourage visitors outside of mealtimes and provide them with some form of refreshment to enhance the social occasion for the resident:

"If we have visitors they always make them tea even if they come up here." (Madge, resident)

One resident highlighted that visitors were uncommon at mealtimes. Although he appeared to be unaware of any rules or guidance, it had become apparent that residents did not get visitors at mealtimes:

"Sometimes, not very often, everyone's got to know the times and sometimes they make the visitors wait. Yes there's a few restrictions you have to go through like when I was working in the work house....." (Bill, resident)

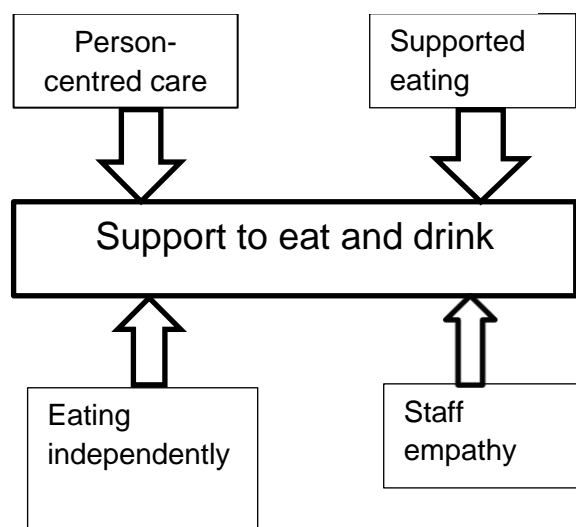
The lack of visitors was highlighted by managers who were aware of how some older residents who had few family members and were often isolated:

“You get to know because it’s a small home and families can bring things in if they want and some people who have no-one on this earth, then they can have something to nibble on in their room.” (Liz, manager, dignity course)

“We have a generation who often don’t have anyone, two world wars decimated some families. A lot of people going through who have no families so we have to be their families we celebrate birthdays and we always have special birthday cakes, we have champagne for important birthdays, we have parties for family.” (Gillian, manager, dignity course)

5.2.2.3 Support to eat and drink

Figure 12 Diagrammatic representation of the different ways staff support residents



Person-centred care

Person-centred care requires information to be recorded and staff to act on knowing individual food preferences, as well as the preferred eating environment at different mealtimes, portion sizes and frequency of meals and any other information about the eating patterns and requirements of the resident. Residents were aware staff had this knowledge and happy when meals were delivered to meet their individual needs and it corresponded to a positive mealtime experience:

“Yes it’s all done for you, everything comes on the plate, but they know what you like and if you want a bigger meal or a smaller meal. They are very good like that.” (Josephine, resident)

“Basically they know what the meal is and they know what you like and if there is a variation then they come up to you and say would you like this or would you like something else you know.” (Betty, resident)

Getting to know residents was an aspect of person-centred care that was recognised by staff. Those who had been with the home for a while felt they understood each person's needs, which added positively to the mealtime experience:

"Where I know that I've got two big eaters I've got two very picky people and the others are pretty medium sized. Now, well I've been here about 14 months, at first it was all new to me, mmm I was putting too much out but until I got to know them and their likes and dislikes mmm I know them, every-one of them individually now I know them." (Kitty, Manager, nutrition course)

One care worker highlighted how she ensured individual food preferences to be accounted by the kitchen staff. Communication seemed to be necessary to all departments, for person-centred care to be embedded within the care home ethos and ensure the mealtime experience was optimised by all staff:

"I write their individual care plans now so what's in it I give a photocopy to the chef. They know exactly what that individual requires." (Vicky, team leader, dignity course)

Despite care plans and food preferences being recorded, other actions were needed to ensure person-centred care at the point of delivery of food and drink. Residents frequently changed their minds about what foods they wished to eat and meeting these needs was recognised by one manager:

"What we are trying to do in the future, we used to have two menus but we are only a small care home but it didn't work out as one day you can ask them what they want now and the next day they change their mind." (Lynn, Manager, nutrition course)

The complex needs of different residents were highlighted by one manager. A new resident had arrived and obviously learnt to live with an undiagnosed food related health issue. There had been no official diagnosis and the staff at the care home were challenged to serve food that would suit her personal preferences:

"Of course a lot of it is about what people actually like or don't, what they can tolerate or not. So I said to her she has to tell us what she likes and doesn't like and if she can eat them and tolerate. I am going to see what happens and how it pans out. Strictly speaking I don't think she is actually on a low fat diet but she has learnt what she can tolerate and what she can't. And what she likes and her preferences." (Beatrice, manager, nutrition course)

Supported eating

Figure 13 Percentage contribution of the different job roles that agree or disagree with the statement: 'There are too many residents who need help to eat and drink for me to give personal care to everyone at mealtimes'.

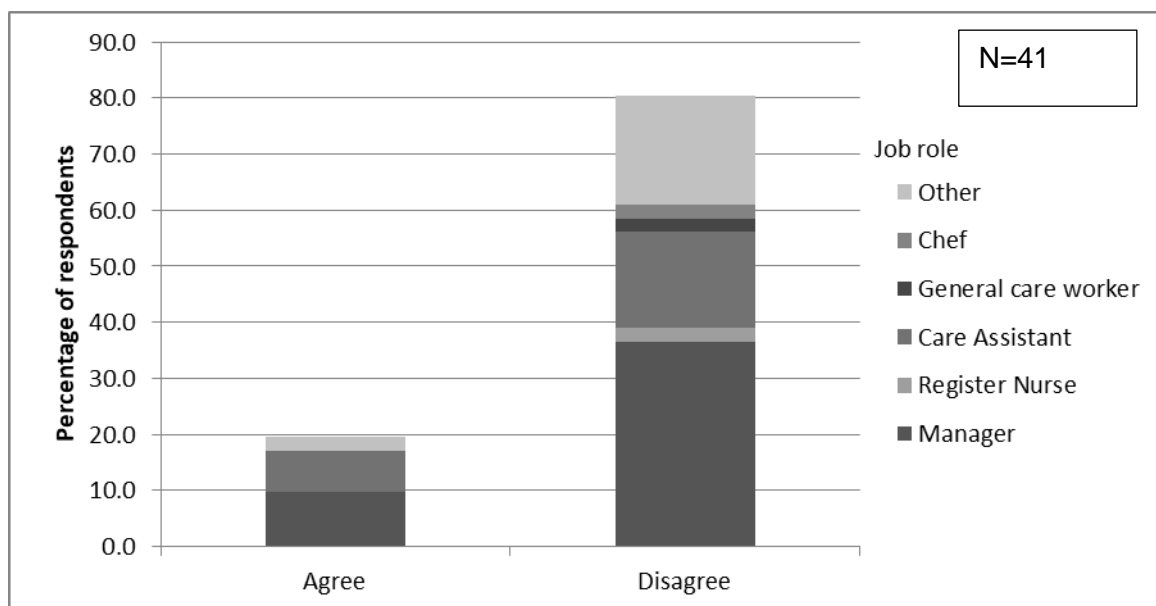
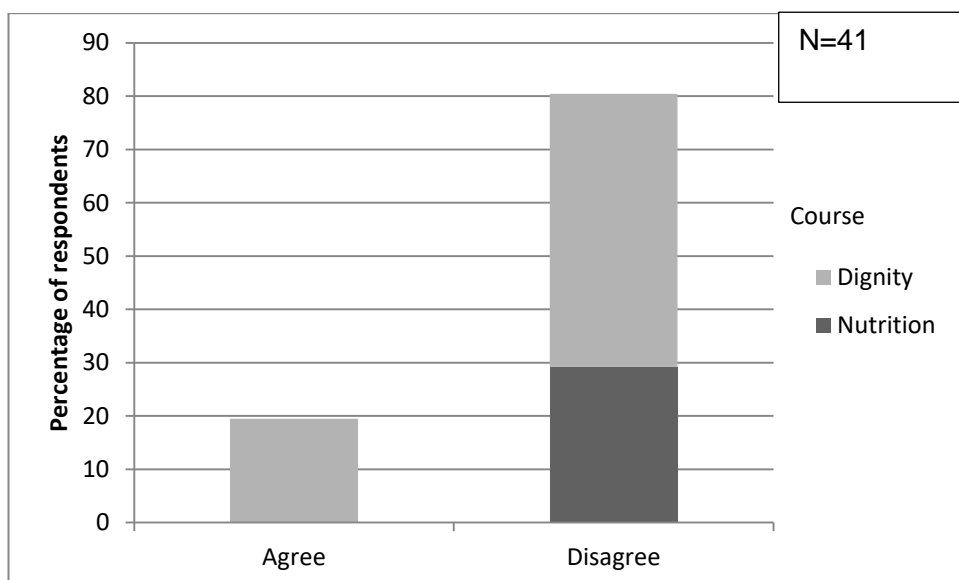


Figure 14 Percentage contribution, by course, that agree or disagree with the statement: 'There are too many residents who need help to eat and drink for me to give personal care to everyone at mealtimes'.



Support to help residents to eat and drink and how this is done can affect person-centred care for all. Figure 13 shows 19.5% of staff agree to some extent with the statement 'There are too many residents who need help to eat and drink for them to

give personal care to everyone at mealtimes' demonstrating that the majority of carers believe they are able to provide personal care at mealtimes for residents. There was no relationship between different job roles responses ($p = 0.753$) and by course in Figure 14 where $p = 0.433$. The observations identified that support to eat and drink varied considerably across care homes and dignity was maintained to different degrees. In some care homes (5, 25, 41), the residents who needed assistance to eat were grouped together and carers sat with them to help. In others (20, 42, 43), individuals sat randomly alone, in either the dining or sitting rooms and received ad hoc assistance as staff perceived was required. The impact on the mealtime experience of the other residents appeared to be minimised when those needing support were grouped together in one area of the dining room whilst the very able sat elsewhere. It was difficult to identify how those being supported felt being assisted to eat. They seemed to accept being fed out of necessity.

Recognising dignity in delivery of personalised care at mealtimes was observed to vary. The way carers communicated in the dining room varied between homes and showed culture differences between care homes. Some staff (1, 9, 10, 43) were good at identifying those who needed help and stepping in gently to do so. This was particularly so in care home 1 where staff sat down to eat with residents. At the same time they were able to subtly help those residents struggling to eat. Carers at some care homes (1, 42) focused entirely on the residents' needs. They held a dialogue aimed at the residents by talking them through the process or a more informal conversation. Other carers (24) conversed between themselves and only focused purely on the task of feeding a resident. In care homes 5 and 9, the carers were willing to help individuals, but seemed unclear what was expected of them. In one case (9), the carer was more concerned with keeping the resident and floor clean than encouraging and assisting food consumption in a dignified manner. The most common way to support those to eat was to spoon feed. The support needed was identified by one resident:

"Yes its set up like a hotel restaurant, I notice that some of the people who struggle and can't walk then they have it on a tray with a table and make it easier." (Josphine, resident)

The need to gently support particular residents along a continuum was identified by one team leader. Blindness could impact on the enjoyment of mealtimes for one dignity course attendee, who found that she had been unable to identify the food she was eating, following her own experiential learning of receiving care when blind. From this experience, she felt it important to inform blind residents where and what individual items were on the plate in front of them, especially as many would forget what they had

ordered for the meal. By doing this, she was hoping this would help improve the mealtime experience:

“....with the people who can’t see is to tell them what it is they are eating or at least what you have given them especially the one who is blind she has pureed meat as she can’t chew the meat bless her and she always says to me what am I eating i don’t know what I ate today. Now what I am trying to do with the girls is that they need to know to say the meat is right in front of you and it corned beef hash or whatever, cos you don’t know.” (Vicky, Team leader, dignity course)

Other health needs can also impact on food consumption. Consideration of the wider holistic support is needed for residents to ensure there are no barriers to physical eating. This manager realised the need of one resident to see a dentist:

“I approached her in a way to say to her you are not upsetting us if you don’t want to eat the meat, we would rather give you something that you do want to eat. So anyway she said she didn’t want meat at all because of her teeth. What we did was to get the dentist to see her.” (Lynn, Manager, nutrition course)

Staff numbers to support all residents was identified by one manager:

“Our staff we don’t do breaks at mealtimes so if someone needs feeding there will be someone to help them. We have the music on, it’s very relaxed and there’s the drinks trolley, it’s a very sociable event. So the staff will sit with them and there is a lot of laughter.” (Liz, manager, dignity course)

Eating independently

Mealtimes could be task-focused and care staff tended to take control for those needing assistance. Partial independent eating, with support being provided along a continuum of care was rarely challenged by staff. This was particularly so for the less able residents who might have had a physical or mental problem associated with eating difficulties. Rather than thinking about how to enable them to eat independently, staff appeared to either leave the person to struggle to eat alone or feed them directly. In care home 5, staff were observed to tell hard of sight residents what was on the plate. Although many may need this sort of help, there were very few instances when residents were supported gently to help themselves or have a hand over hand approach to retain a level of independence.

Two homes (51, 52) encouraged residents to participate in dining room activities such as setting tables and clearing away. These homes had residents who were more independent and able than other homes in the study, and the philosophy of the organisation was to encourage independent living as much as possible. The idea of encouraging residents to partake in routine jobs was not brought up by staff specifically, although there was an overriding sense of inactivity in other homes visited

which seemed to be a consequence of frailty and health problems primarily due to the ageing process.

Home 21 made every effort to encourage residents to retain a level of independence both at mealtimes and in daily life. The manager recognised how residents often arrive having struggled at home to retain their independence, finding everyday tasks very challenging. Once the decision to move into a residential home had been made, they then had to be encouraged to return to a semi-independent life. They were in the centre of a small market town and residents could walk into town. The researcher visited on a warm day in summer, and from observation many had gone out for lunch, which provided variety to the mealtime experience:

"We just try to continue the life they had five years before and we pick up on it. Food is a stimulus, for people who have become quite lethargic and withdrawn gradually we reintroduce food like offering one of the chaps a beer before lunch or putting two chaps together to have a beer or going out to the pub." (Gillian, manager, dignity course)

Another manager identified how one resident was involved with the daily activity of running the home, enabling her to retain independence and autonomy:

"....her little job in the mornings she likes to lay the dinner table up and of course I didn't know she was out this morning she had the doctors, so when she came back I said I'm going to sack you where've you been? But if I get on and do it then she gets a little bit upset cos that's her little job." (Mary, manager, nutrition course)

One member of staff identified the importance of guiding residents to continue to help themselves, following her own experience on the dignity course:

"The other thing was, I couldn't see it and I didn't know where the bowl was or where the spoon was unless someone put it in my hand but I suppose it was more to do with the blind thing people thought I couldn't do it. They didn't say your spoon is on the right there beside your placemat but they put the spoon in my hand. Rather than trying to guide me to it. ... if they had said to me your knife and fork are in front of you then I could have gone reaching out or your knife or fork are on your plate.....everything is about control and it doesn't need to be that way." (Vicky, team leader, dignity course)

Small actions from carers can promote a degree of independence, this was appreciated by residents. One lady reported how nice it was to have her own supply of condiments and sauces in her upstairs room, where she ate. This allowed her to modify her food to taste, and enhance her mealtime experience:

“Well you can’t have fish and chips without vinegar can you, I can’t say to them when they have brought it I haven’t got any vinegar and make them go all the way down (two flights of stairs) and all the way up and then back down again so I said to Tina when she came I want some mayonnaise, vinegar and Lea and Perrins.” (Vera, resident)

5.2.2.4 Staff empathy

The empathy of staff towards residents was observed to vary at different care homes. Staff rapport with each other and residents varied, but some helped to create a more social, relaxed and empathic atmosphere (1,22, 41, 51, 52), which contributed positively to the mealtime experience. The way staff moved around the dining room changed the ambience in the room. At care home 24, staff queued at the serving hatch. In homes 41 and 20, staff moved between tables helping and talking, as required. With others (25, 23, 22, 21, 52, 51), staff were absent in the dining room when eating was taking place presumably because they thought they knew no-one needed assistance or were busy elsewhere. Some staff (24, 43) were seen to chat over the heads of the residents, sometimes about the residents or previous residents. This impacted negatively on the mealtime experience as highlighted by this resident:

“Sometimes I hear staff talking, we’ll move this one or that one. I don’t like that.” (Lois, resident)

One member of staff experienced feeling isolated and becoming insular at her dignity training. She realised that some residents were regarded to demand a lot of attention and this could lead to others either having a feeling of being forgotten, or not wanting to create more work for the carers:

“Most of our residents say well I didn’t ring dear because I know how busy you are so what I want to get through to them is that it will probably make us more busy if you didn’t ring at the time you wanted it rather than ringing when three hours later during supper. The problem is that some people don’t ring all day here not once to ask assistance to go to the toilet or need assistance to go for a walk as they are not confident to go by themselves and would like someone to go with them but they are too scared to ask. I did what they did I stopped and I stopped asking. I sat there for an hour and a half with no communication with anyone.” (Vicky, team leader, dignity course)

Another member of staff who attended the dignity course realised the need to be more empathic with residents who were new, and with those who were quiet or demanded less attention and could sometimes be forgotten. In a group of people, it appears there will always be those who seek attention, either directly or indirectly. It would appear that it is easy to forget those who require less work, especially in a task-driven culture, where staff are busy:

"You have to remember how scary it feels, the residents are terrified and you are terrified being in a new job and you don't know what you are doing with them." (Jean, care worker, dignity course)

Having empathy with those who need specific foods was highlighted and carers wanting to provide options for their residents. The role of kitchen staff is significant in delivering a good meal experience. They need to focus on the individual preferences and food requirements of the resident. A carer faced challenges from kitchen staff who did not prioritise the need for different options for the residents:

*"R**** cos he can't see and he has nutritional problems did I make him not have a pudding he wants what if someone said I couldn't have cherry bakewell or they couldn't make a diabetic version, cos I know it is possible." (Vicky, team leader, dignity course)*

One resident had a converse experience when the chef identified the needs of an individual. The chef had made him feel special, which he had obviously appreciated and contributed to improving his overall mealtime experience:

"She (The cook) bought me a bottle of Guinness.....Oh yes he told her he liked Guinness. Some of it is still there, she says that Guinness will keep you can have it tomorrow, she (the cook) is a card she is." (James, resident)

One manager had reflected on his own understanding of empathy and consideration of dignity at mealtimes. This had consequently caused him to realise the issues relating to dignity with cutting food up in front of less able residents:

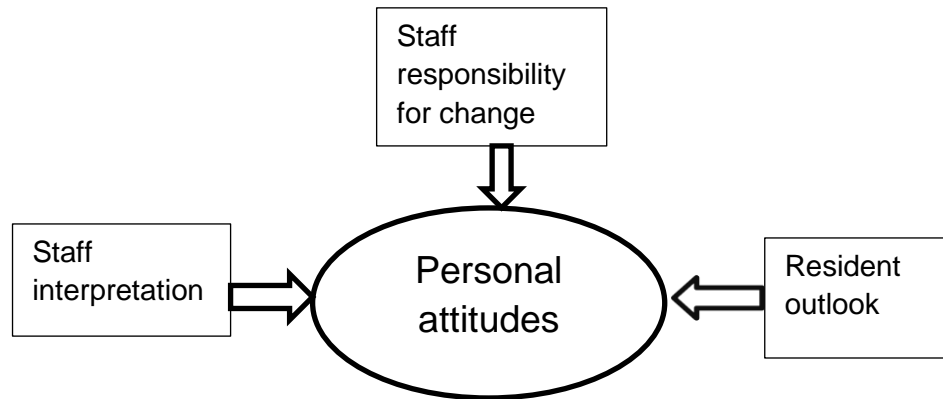
"The other thing we want to do is not to cut meat at the table.....I did that for years and then it occurred to me a year or 18 months ago and I thought oops that actually quite degrading and I thought if we know if an individual is going to have a particular meal then we can do the cutting in the kitchen." (Micheal, manager, dignity course)

Difficulties getting residents to eat a healthy diet were flagged up at an interview following the nutrition course. It was felt that although healthy options should be offered and encouraged, the ultimate decision of what to eat has to be with the individual older resident:

"We have one lady who won't eat anything green at all, but she said 'but I never have dear' and she said 'I've done sport all my life and I don't think I have suffered from it five a day pff! I thought well fair do's if I was as fit as you are at your age then maybe I could argue the same.'" (Janet, manager, short course)

5.2.2.5 Personal attitudes

Figure 15 Diagrammatic representation of how personal attitudes affect the mealtime experience.



Staff interpretation

Staff interpreted mealtimes in different ways. In some care homes there was little staff interaction with residents observed other than delivering the meals to the tables or rooms. The delivery was very task-focused ensuring each resident received their chosen meal option and little socialisation by staff was taking place. This was particularly so in care homes that had large numbers of plated meals being taken to individual rooms (9, 24, 42, 43,). This lack of staff – resident interaction meant some residents were observed to become placid receivers of care, often living in a socially isolated state in their rooms. The predominant number of residents eating in their rooms meant only a few residents chose to come into the dining room. Two care homes (9, 42) had less than four residents using the dining room to eat. There was little reason to come into communal areas to eat or otherwise as little socialisation took place. Those few who did, tended to sit alone watching what was going on but as staff were focused on taking meals elsewhere, they were often ignored by staff and left alone to eat. It was interesting to note that the carers in this instance did not prioritise supporting those seated in the dining room, as they were busy taking food to individual rooms. This appeared to lead to a cyclical reduction in those using the dining room. Conversely, it was noted staff who interact with residents by blending social skills and tasks were able to foster a convivial environment. These dining rooms were more populated, more sociable and had more staff available to help (41, 1, 21). Mealtimes have a high staff to resident ratio requirement, particularly if they are to deliver person-

centred humanised care to all residents. In addition, there were occasional emergencies that were observed to redirect staff performance, for example whilst observing one mealtime, it was noted a resident needed emergency health care and an ambulance was called.

The variation in how staff support residents to eat and drink was supported by one manager, who explained how there were differences in staff perceptions of which residents needed assistance to ensure a positive mealtime experience:

*“Our activities officer K***** here she always goes to my unit....when she’s on duty she is amazing. She really notices who’s not eating, who’s got problems.”*
(Greta, deputy manager, dignity course)

Another manager observed one lady who had developed a preference for sweet foods and for puddings in particular. She realised that the dignified choice of eating preferred food was more important than eating a balanced meal:

“...she wasn’t eating the main course just didn’t want it. I tried and she just wasn’t interested so I took that away and got her a pudding and she fed herself and the staff looked at me and said but she hasn’t had her main course I said it doesn’t matter as long as she’s eating and getting calories into her but obviously they have this idea, they mean well but they feel they’ve got to eat their main meal, but it doesn’t matter as long as they’re getting calories.” (Greta, deputy manager, short course)

Staff can voluntarily or involuntarily become focused on the tasks around mealtime delivery or even have to manage an emergency and if not careful, residents can become forgotten, which leads to unenthusiastic emotions:

“You don’t feel you get forgotten, No, well sometimes....Long silence.....”
(Josephine, resident)

Staff responsibility for change

Those who had been on dignity training course recognised the importance of staff providing a good mealtime experience, but realised that getting all staff engaged with changes to food and drink delivery was challenging.

Other members of staff/departments can influence mealtimes and make change difficult or easy. Staff who were inclusive and creative were enabled to provide constructive dignified mealtimes:

“She (the chef) is very good with food and doing alternatives and we are looking at her getting more involved and giving them ideas of what they have.” (Lisa, deputy manager, dignity course)

Differences in opinion between care home kitchen and support staff of how they influence the mealtime experience were highlighted, especially if staff did not regard it as their job to focus on care. Management were reported to be crucial to influencing change within the care setting, as team leaders, deputy staff and care workers felt powerless to influence other departments:

*"It's a constant struggle with my chefs..... The home is *** run and I don't have control although I am team leader I have no control over the kitchen or anything like that, although I have forced the fact of me being on the course and I have told them what I think they should be doing just from my experiences..... It is hard to get people to change their ways." (Vicky, team leader, dignity course)*

"I didn't expect things to happen just like that." (Lisa, deputy manager, dignity course)

Staff, at one care home, were identified as being inflexible. This care home had been through a period of great change. It had failed a CQC audit inspection and a new manager had recently started, with the aim of improving the delivery of all aspects of care. There had been considerable staff turnover and many staff could have felt vulnerable to further changes being enforced:

"There will be some resistance from staff because its change and it doesn't matter what that is there will be resistance." (Micheal, manager, dignity course)

Planned change may be prevented due to time pressures and staff shortages. The difficulties in prioritising work were recorded. It was evident in some homes that there were staff shortages which could have impacted on change and mealtimes:

*"Not as yet obviously because C***** has been off so we haven't had chance to sit down and talk about it but we are intending to sit down and discuss things.... Getting new carers is hard and it would be great to get someone new, get them in the job for 6 months and learn the basics and then do it (the training course) and be that resident and see how you feel." (Jean, care worker, dignity course)*

"We need to add more stuff and the chart I haven't used it yet looking at how many portions of things each resident is eating. I haven't used that yet but I have been away on holiday, I have so many things to do..." (Helen, owner, nutrition course)

Staff motivation to change could be determined by external agencies. The effect of national audit inspectors was one key driver highlighted by one care home manager. The requirement for care homes to meet essential standards motivated the need for change in this instance:

"I'll be honest with you the reason we came on the course was because we had CQC in and the main thing they said to us was we weren't recording

mealtimes well enough and things so that got me thinking and then I saw this course advertised.” (Janet, manager, nutrition course)

Residents' outlook

Many residents had an overriding sense of being looked after. They had increasingly struggled at home to the point where preparing meals and shopping were extremely difficult. Once the decision to enter the care home had been made, these residents were relieved not to have to have responsibilities of cooking, cleaning, shopping and washing. Their overall opinion was very positive of meals:

“Yes it's just perfect and the food just appears, I haven't had to go out and buy it, wash it, cook it and then clear up and wash up afterwards, even with the dishwasher you need to put it away and wipe all the surfaces down, and I just need to say thank you very much.....I am happy.....It all appears on a tray what more could you want.” (Vera, resident)

“The nurses work so hard here and we are not all very easy you know..... but the meals are excellent here I must say. They give us a choice you see.” (Doris, resident)

Some residents had adapted to their new style of living very well and enjoyed the company and the reduced burden of responsibility. This relief seemed to be an overriding factor in accepting food that was offered:

“You can't fault it. The atmosphere you can fit in with everybody, people can't help it but we all fit in together..... It's easy enough to fit in with everybody especially as you know you have to be here. I couldn't carry on any more, I don't want to broadcast how old I am..... I couldn't look after him anymore it got too much. Yesterday for instance we had a goulash – well I hadn't had that before but I try everything that comes along and so far I have managed to eat everything and enjoy it. The food here is super.” (Ellen, resident)

This positive attitude seemed to be presented regardless of whether the resident had voluntarily come to the care home, or had been required to due to a critical incident. It could be due to an underlying disposition or another factor that was outside the research scope of this project:

“I was lucky enough to be able to get in here and it was the best thing that ever happened to me, cos I would never have left home voluntarily but having done so it has transformed my life. The food is wonderful and one element. I cannot speak highly enough of it.” (Frank, resident, who came to care home after a prolonged stay in hospital following a fall)

“I chose this myself. I'll tell you why.... but I feel that everyone can get on with their life and I won't stop them. I said to (her daughter) about coming here and she said oh dear, mum is that what you want and I said yes its entirely my choice so she said if that's what you want.” (Madge, resident)

However, other residents struggled with their new surroundings and although they accepted they were in a safer place, and being looked after they were unenthusiastic

about their new life and its challenges of difficult residents and food that they were not used to:

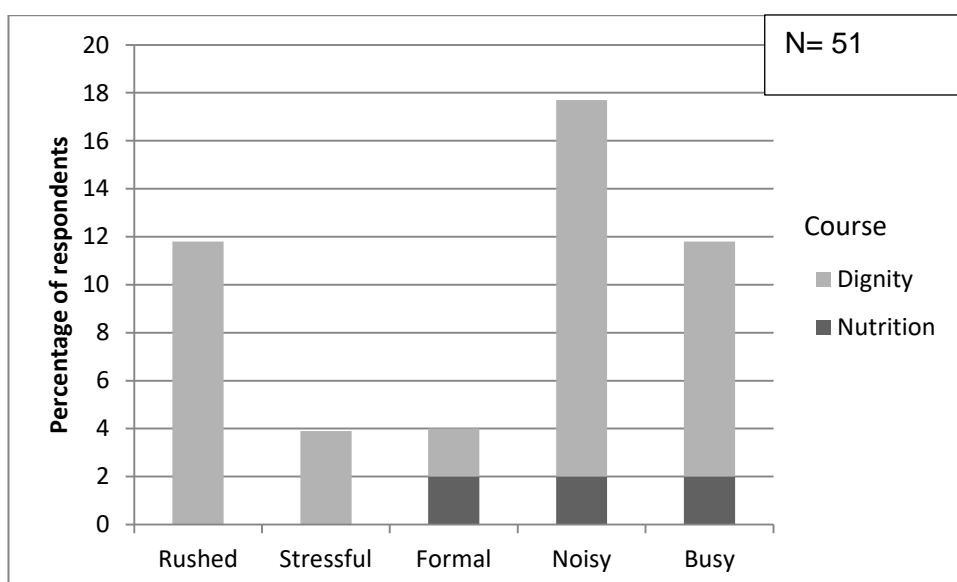
“I just have to well I can’t have what I want. My grandson came to see me the other day and he said are you feeling more settled now grandma and I said I’ve come to terms with it now. I do realise it’s the best place for me. Family wise they can relax my oldest daughter will be 70 this year, my son 67 and my daughter will be 66 in October and the other one 61 they are all getting on and they need to be able to enjoy their life without worrying all the time about their blimming old mother so I said I am quite content. But I do miss my old life and I did love my life as I had a nice garden.” (Nancy, resident)

5.2.3 Social environment

5.2.3.1 Physical dining setting

Figure 16 shows the percentage of staff who reported the negative attributes of the mealtime experience: there was no significant difference between course attended and the following attributes: stressful ($p=0.247$), formal ($p=0.750$), noisy ($p=0.057$) and busy ($p=0.228$). However there was a significant difference between different courses attended on how rushed staff felt the mealtime to be ($p=0.036$).

Figure 16 Percentage of respondents who would describe the dining room with defined negative attributes

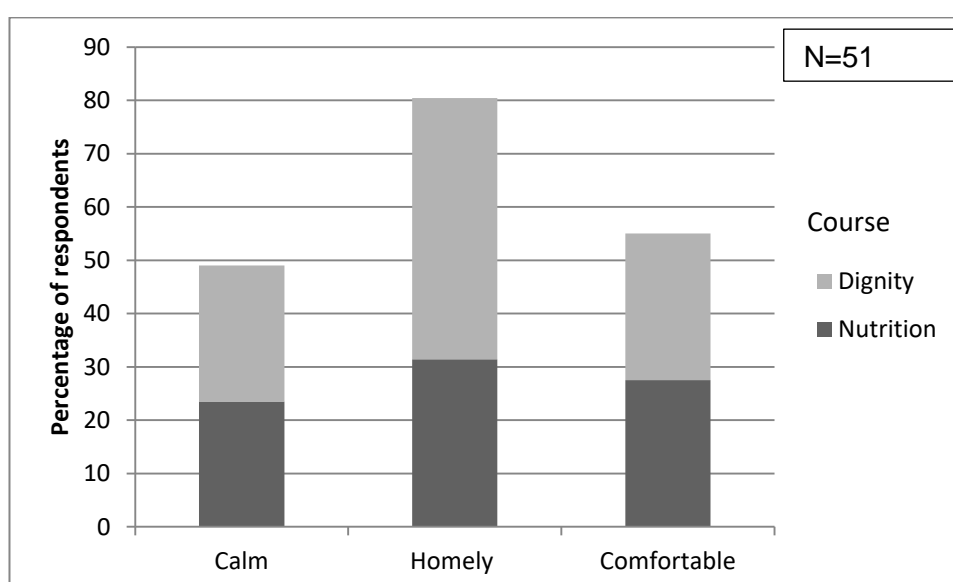


This quantitative data shows 17.6% of respondents viewed the dining room to be noisy, although the source of the noise was not asked for in the questionnaire. The qualitative observations showed that quiet music was often playing, which in the eyes

of the researcher contributed positively to the ambience of the dining room. This could have been because the residents were often very quiet and focused on eating, whilst some background noise such as music distracted from the silence. A couple of homes tended to have dining rooms that were also used as day rooms or activity rooms, in which there was a tendency for the television to be left on. It was noted that for some residents positioned close by, or for staff serving meals, this could be a distraction.

Figure 17 shows 49% of respondents reported the dining room as calm and 54.9% reported it as comfortable but no attribute showed a significant difference between staff responses for course attended: calm ($p=0.208$), homely ($p=0.955$) and comfortable ($p=0.082$).

Figure 17 Percentage of respondents who would describe the dining room with defined positive attributes



Despite the quantitative data showing 80% of staff regarded the dining room as homely, the observations showed dining rooms varied from large and airy to smaller and more cluttered. The smaller care homes with 25 or fewer beds were observed to offer mealtimes in an environment with furniture that was more typical of that found at home and less purpose built specifically developed for frailty requirements or resembling modern hotel facilities. Often, the former were homes that had been converted from large houses. The more sociable dining rooms often had wall lights, sideboards, bookcases and pictures around the room, even if seating was purposefully manufactured for the sector (e.g. easy to move chairs on runners, wipe surfaces etc.). Most dining rooms had tables laid with flowers, condiments, cutlery and glasses before

residents sat down, this helped to identify the purpose of the room. One care home (42) did not lay tables and it was difficult to tell what the intended use of the room was without food on the tables. Interestingly, this dining room was not frequented by many residents at the lunch time observed. In interviews, residents did not articulate any interests in the physical environment, but the number of residents who patronised the dining rooms could have been indicative of its importance.

Due to the disabilities and frailty of the residents, many have to come into the dining room with wheelchairs and frames, which needed space to be manoeuvred. This space was limited in a few care homes (9, 5, 23), although this did not seem to discourage residents using the dining room, but made movement for all and delivery of meals awkward for carers.

Residents were seated around tables that could accommodate 4 – 10 residents, the most common being approximately 4 – 6 at each table. In home 21, each resident sat alone facing into the centre of the dining room. This was not viewed negatively by residents and they were observed to like their own space and knowledge they had an allocated table. The care home manager, a lady with 30 years of experience, had always taken this approach and understood the needs of her care receivers:

“My underpinning reason for keeping separate tables has always been so that individuals can come down and eat in a social environment but retain their individualism. But every now and then is a good balance.” (Gillian, manager, dignity course)

Other environmental factors could impact on the experience. One resident talked about the temperature of the dining room and how some people felt the cold significantly more than her. The heat made her feel stifled and uncomfortable:

“Nine months I came 27th October last year, and I say I’m always saying I can’t expect you to change things for me as they have these weird people who can’t eat this and won’t eat that and got no appetite They let me eat in here when I first came but I think to be sociable I should eat in the dining room. But there again I have a problem with the ventilation. When you count up the people in there and there are two or three who wear layers and layers of coats and rugs round them. It gets so hot so I say can we have a window open and then they see the window open and they say can we close the window and it gets so hot. It’s difficult who takes precedence. I escape as quickly as I can unless there is a game laid on.” (Nancy, resident)

5.2.3.2 Personal choice of where to eat

Having choice of where to eat meals was important to many residents and was recognised by staff. Those dining rooms that had more residents eating in them were where residents were allocated specific seats at specific tables. These tended to be more sociable. Staff recognised the significance of the social impact of mealtimes and encouraged residents to make their way to the dining room at mealtimes, whilst appreciating individual care needs. Although residents could be moved into the dining room up to 45 minutes before lunch time started and left with nothing to do. This boredom may have influenced why some chose to eat in their own rooms, although no-one said so directly they did highlight how getting to the dining room was challenging:

"Yes you can eat in your room, it's not encouraged but they don't object if there is an occasion I have felt that I haven't the energy to go then they say fine. It's a long way to the dining room from my room and its further coming back. And then if for any reason I am not feeling very well then I can have a tray brought to my room." (Lois, resident)

"Also, if they want to eat in the dining room, or in their rooms that's up to them." (Philip, care worker, dignity course)

"Lunch time is a very important time for me you can't drag people out of their rooms. It's obviously choice but we promote being social so we say well for example take Dottie, she'll only come downstairs for her lunch and sit with the ladies and then she'll go back to her room. So mealtimes for me, lunch time, well it's important." (Liz, manager, dignity course)

"Well sometimes breakfast it all depends who's on sometimes I have it in my room and sometimes I come down, but I rather have it in my room, breakfast, cos there's no-one who comes down you see otherwise I couldn't be any better." (Bill, resident)

Options to eat in different places were observed including residents' own rooms, lounge areas as well as dining rooms. Residents generally did not feel under pressure to sit in particular locations, as highlighted by this resident:

"I have terrible arthritis down the neck you know and if I turn too quickly I hurt so I don't like sitting at the tables, so I sit here (on an easy chair on her own) but the choice is where you want to sit..... We can eat wherever we like, if we prefer to eat in our room we can eat where we like whenever you want to." (Doris, resident)

It was recognised different personalities had to be respected when putting people together:

"We sit out here in the conservatory, that's brilliant. There are some awkward customers in the dining room they upset things." (Josephine, resident)

"I have learnt that psychologically that's really important when people come in to the home, if they don't have that then they have fights about chairs. A psychiatrist explained it to me – when you come from a house or a flat, everything is reduced so this bit is really important so don't move people without lots of negotiation first." (Gillian, manager, dignity course)

Being able to exert a level of control and show independence and autonomy was important and emphasised by one resident:

"They (family) have paid for me to have a room here by myself and we've talked about it whether I should mix with the others or if I stay here and I said I think I would rather have my own room all to myself and do what I want to. If I want to go in there then I can if they have something on then like a something like a church service or a singing competition then I can go in there." (Heidi, resident)

For some, getting to the dining room was a physical challenge. Some residents used this as justification to not go to the dining room at mealtimes. It was unclear whether they found the social and physical environment in the dining room difficult. Residents declared they did not want to cause additional work for their carers. This is highlighted by this resident who perceived going to the dining room as causing more work for staff:

"I mostly eat up here because I can't take myself down and it seems to be such a bother for a short while." (Pat, resident)

The challenges of recognising the support residents require in a dignified manner, as well as the impact of disability on confidence and willingness to eat in front of other residents and strangers were discussed. Previous incidents in the dining room can impact on residents' wishes, and one care home manager highlighted the issues several of her residents had experienced and how this impacted on where they now ate their meals:

*"Other people can stop eating to watch those with problems and that is so degrading. That's why they move in to the kitchen as we are all around and someone can eat with them and just help as is necessary and it doesn't matter. One lady doesn't come in here because she feels she is not good enough. I don't know what is best. We have one or two who prefer to eat in their own room often because they have had problems when they first arrived. Mr **** was like that when he first came and it's a miracle to see him now. He was an emergency when he first came. There are about 5 at the moment who eat in their room." (Gillian, manager, dignity course)*

5.2.3.3 Anticipation

Figure 18 Percentage of respondents, by job role, who felt that residents often have to wait some time for their meal.

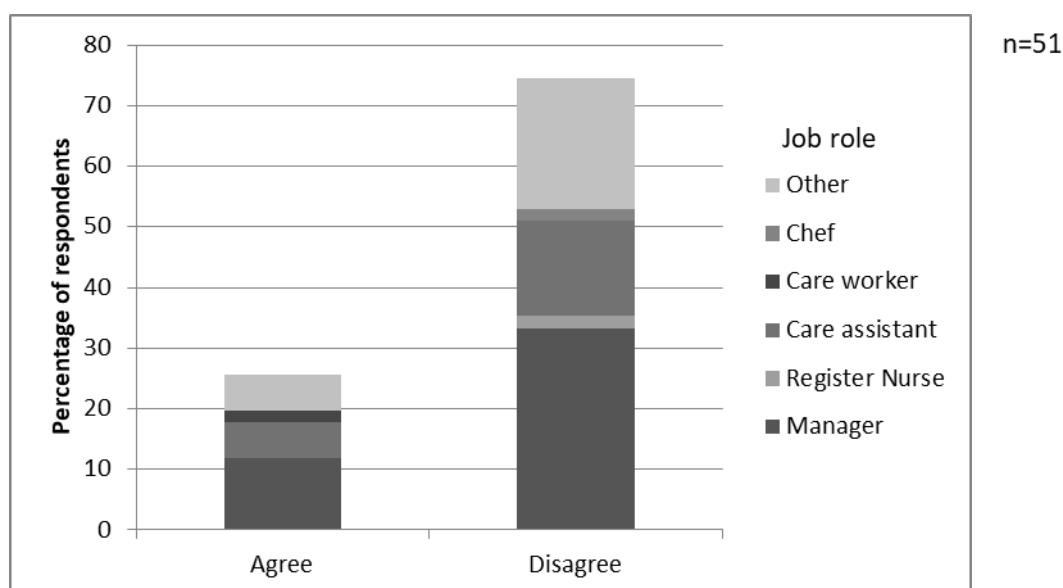


Figure 19 Percentage of respondents, by course attended, who felt that residents often have to wait some time for their meal.

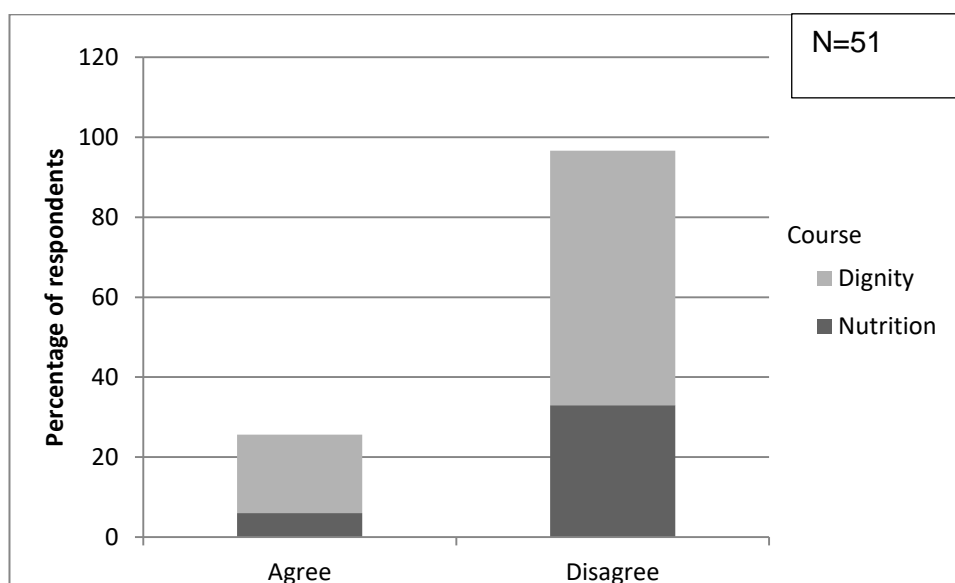


Figure 18 shows that 74.6% of respondents disagreed to some extent that residents often had to wait some time for their meal. There was no significant difference between perspectives of job roles ($p=0.699$) or course attended ($p=0.351$) shown in Figure 19. This is corroborated by the observations, as only one home served the meal late (42) but on this occasion the residents started to leave, before they received

their meal. Interestingly, meals were served directly to those in the well populated dining rooms before food was taken to those who wished to eat elsewhere, reducing the evident waiting time and ensuring everyone seated together was served at the same time. The impact of delivering meals late was reflected on by some staff members, who had experienced mealtimes on their dignity course. Lateness was considered to be frustrating especially when residents are looking forward to a moment of occupation, in an otherwise monotonous day:

“One time at Stimul (dignity course) was late and I realised how disappointed I was and then realised why our residents kick off if the food is not there when they want it and expect it.” (Claire, manager, dignity course)

Residents’ anticipation of a forthcoming meal was observed in a number of care homes (5, 9, 20, 23, 25, 42), when residents started coming in to the dining room early for their main meal. Meals were seen as a pivotal point in the day and an opportunity to socialise. Many of the staff who attended dignity training reported to have always realised the importance of mealtimes, but during the experience they had reflected on how meals gave structure to the day, often breaking the monotony of boredom:

“On the other hand it’s the only thing you have to look forward to....it’s sort of its 11.00 so that means its coffee and biscuit time then its half past twelve and its dinner time and then its 3.0 and its time for a cup of tea and cake so it’s kind of the time and something to look forward to.” (Lisa, deputy manager, dignity course)

One manager realised whilst undergoing the training experience of being cared for, how tediously time passes, when one is not doing anything and related this to the experiences of her residents. She linked this with the importance of mealtimes, which gave people something to focus on when other parts of the day were largely inactive:

“I had not appreciated enough what it is like to just sit and so, when someone tells you it’s (about lunch) going to be half an hour and then after 20 minutes they come back and say no that’s not right it’s going to be another half an hour or an hour it’s like a crushing blow..... But I think in catering time management is very difficult – getting things together all at the right time, not too early and not too late. If you worry about it, it’s either ready too early or too late.” (Gillian, manager, dignity course)

This was supported by a resident from a different care home:

“I look forward to it, the morning can become a bit monotonous really by the time I’ve got up and got dressed and read the paper and had a good look at the

crossword and then the morning tends to linger on and so I look forward to going into the dining room.” (Lois, resident)

These periods of inactivity and boredom led to expectation of mealtimes, despite not necessarily being hungry or recognising it. It was evident from interviews that residents spent considerable time contemplating their forthcoming meals and this gave opportunities to talk to their carers about something meaningful:

“I am always ready for my meal, more because I am expecting it rather than because I am really hungry..... Yes and sometimes I think what day of the week is it, what am I likely to get today? We don't have the same things on the same day each week but I do like to guess what we are going to be having.” (Vera, resident)

“Well they write it down just before dinner, a good while before the dinner, and they put it up on the menu, we can talk about it.” (Doris, resident)

5.2.3.4 Food related activities

The monotony of the day was recognised by staff as they realised that introducing a variety of different activities and meals in different settings could relieve the boredom experienced by residents and improve the overall mealtime experience:

“It is a variation which is how I spend my life thinking of things on how to buzz up their days.....For people who are walking around and doing it's not an issue but for someone who is immobilised that time is forever.” (Gillian, manager, dignity course)

Care homes varied in their approach to providing different food related activities. One home regarded themselves as an integral part of their community and reported to have a number of different social functions within their grounds in which food played a significant role:

“We had a netball tournament, it was great fun on Sunday. After the more serious netball matches they hadIt was an incredibly pleasant afternoon, we were all sitting around in chairs in the garden watching and they were serving cream teas and people came. They advertised in the local magazine and there were hundreds of people here.” (Lois, resident)

Another small care home provided monthly outings for the residents. These seemed to combine a meal as well as some form of sightseeing. This event seemed to be awaited in eager anticipation by the residents:

*“Oh yes, about once a month we have a special, like a Kentucky fried chicken or a Mexican night or a Chinese and they do the rounds don't they?.....Oh yes, we go out to a restaurant don't we?.....Oh yes, about once a month.....One of our favourites is down by the waterfront, oh, what is it the ***** but its great there and you can walk down to the water and we finish with an icecream usually.” (Madge, resident)*

The challenge of taking residents out was identified by one care home manager who reported to undertake the event once annually. This was identified whilst arranging a date for an interview, and she described in-depth the itinerary and difficulties of taking a group of older adults with a range of mobility and frailty issues on a day trip. Another care home recognised the need for different regular activities, as it was difficult to break away from the uniform nature of activity within the routines of the care home:

“.....there’s a lot of activities we took them out and everything and it has really improved. They were eating in different settings and everything. However you make them it’s quite institutionalised isn’t it.” (Greta, deputy manager, dignity course)

The benefit of the different settings and a more informal environment was reinforced by the same care home manager. Care staff had an opportunity to relax and as they were away from the normal work environment, would not have had to undertake other tasks relating to running the care home. The staff would have been able to focus on the residents and enjoy the opportunity to socialise and a different mealtime experience:

*“We find that we took some of my unit to Bovington to the tank museum we sat in restaurant and had lunch with them and this particular lady we couldn’t believe it, she would sit there and do nothing like this all the time but because we were all sat around the table with knives and forks she was eating and C***** and I said she’s either mimicking us or because it was very social and we were all sat around eating so when we got home that’s when we started introducing carers eating with them.”* (Greta, deputy manager, dignity course)

The menu gave an opportunity to add variety to the residents’ lives. Opportunities were taken to create food related events, especially celebrating notable dates in the calendar, and to vary the menu constructively, according to different seasons and weather patterns, for example garden parties:

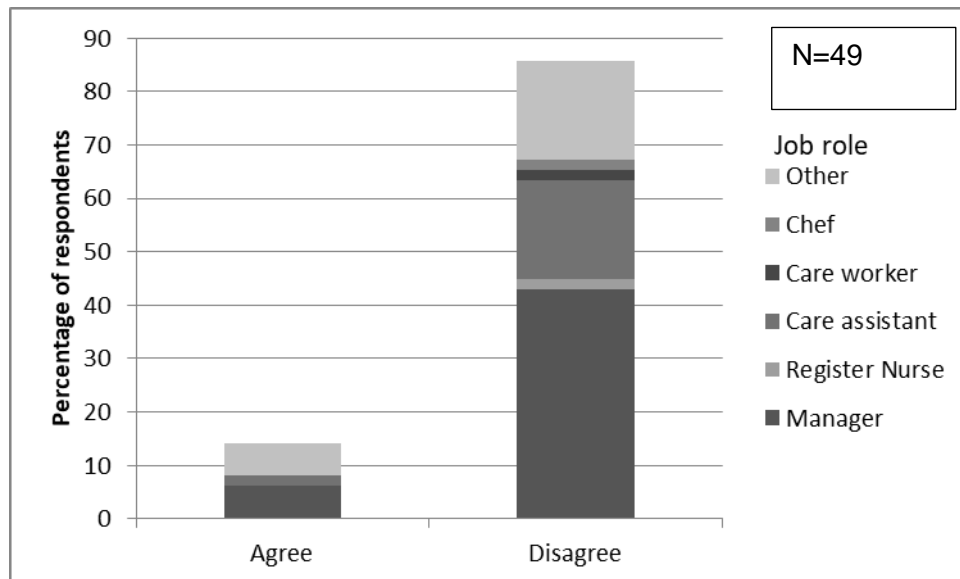
“Then we would have something that they wouldn’t have inside so we are going to have a street party in the garden for the jubilee so we will have coronation chicken and normally we will have Pimms as we don’t have Pimms inside but we are having champagne that day – everything that can be different.” (Gillian, manager, dignity course)

Although none of these events were observed during the present study, residents frequently reported having a celebration for their birthday, and reported kitchen staff would produce a cake at some point in the day to observe the occasion. These opportunities seemed to be welcomed by residents:

“I have just had my 95th birthday and the phone never stopped ringing I was so ashamed, but they said no its alright, they gave me a lovely birthday party here, and we have entertainment all the time here.” (Doris, resident)

5.2.3.5 Interruptions

Figure 20 Percentage of responses to the statement 'Residents are often interrupted at mealtimes'



Interestingly, staff interpretation of interruptions is shown in Figure 20; 85.8% of respondents disagreed to some extent with the statement that residents are often interrupted at mealtimes. There was no significant difference on the impact of job role to this response ($p=0.991$). This is corroborated by the observations, as there were no interruptions from outside visitors, including health care professionals and GPs at any of the care homes visited. One care home (20) had an emergency just prior to the lunch being served and an ambulance had to be called. This arrived in the middle of lunch, but no one was disturbed in the dining room. Family and friends were not seen to cause interruptions. From observations, they either seemed to respect when mealtimes were happening and not visit, or be encouraged to visit at any time and either accompany the resident out for a meal or actively engage with them whilst the resident ate:

"...sometimes they make the visitors wait." (Bill, resident)

Interruptions at mealtimes can be distracting for those consuming food and drink, and can have a negative impact on both the mealtime experience and food consumption. Worryingly, the biggest interruption in all but one of the care homes observed (1, 5, 9, 20, 21, 22, 23, 24, 25, 41, 42, 43, 51, 52) was the medication trolley coming round during the meal. This trolley tended to be large and bulky and required two members

of staff to dispense the medication. This added a complexity to the dining room and reduced the focus on the food and drink. Depending on the size of the dining room, the process of distributing the medication could be lengthy and was observed to dominate the dining room. Staff were sometimes seen to stand over residents to ensure they had taken their medication, again potentially impacting negatively on the meal experience. This dispensing process was confirmed by one resident when asked about interruptions:

"They bring the tablets around at mealtime." (Josephine, resident)

The most common cause of interruptions from external visitors seemed to come from health care professionals who had to visit outside of surgery times, which tended to coincide with mealtimes. When questioned, the residents recognised that there were interruptions, but that these did not happen very often:

"Very occasionally not very often..... Doctors nearly always turn up at lunchtime at the end of their surgery." (Josephine, resident)

"Sometimes, not very often, everyone's got to know the times." (Bill, resident)

The frustrations of having residents disturbed at mealtimes were flagged up by one care manager, who felt their local health centre was responsible for considerable number of interruptions. This team leader felt they had little control over these visitors and felt powerless to encourage them to come at different times:

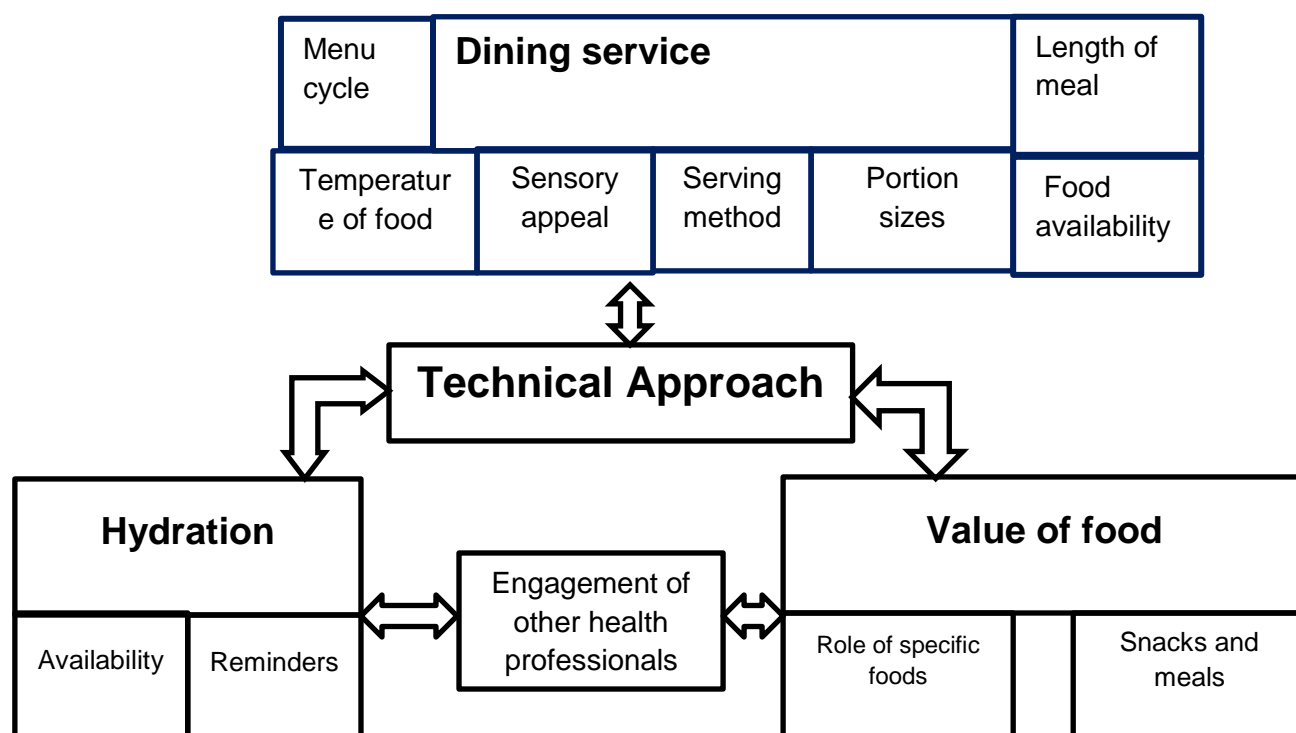
"So our manager's off at the moment on holiday but I said to our head of care if there was any way we could write to our local medical centre and ask them to try to avoid coming at this time, or if they are coming at lunch time, if they could phone us and we could try to make sure that client doesn't come in. I did struggle that day with that nurse because she really did not get it and what I was trying to come across with. This was her lunch time, if I walked into the nurse's house at lunchtime how would she feel. It was really tough that day I said to the head of care did you notice and she said yes. But at the end of the day I don't control their surgeries and when they come out. It happens here every day nearly." (Vicky, team leader, dignity course)

It was recognised by one member of staff the need to have a good working relationship with the doctors' surgeries and therefore, they would be allowed to interrupt mealtimes. She recognised they did this rarely:

"The only people I let disrupt at lunchtime is the GP but it is difficult but they normally come at about 2.00 it's very rare I need to drag anyone out of the dining room." (Liz, manager, dignity course)

5.3 Technical Approach to meal experience

Figure 21 Diagrammatic representation of the qualitative themes of technical approach to the mealtime experience, comprising of offering food and drink service, hydration, engagement of health professionals and nutritional value



5.3.1 Dining service

5.3.1.1 Menu Cycle

The structure of how menus were organised varied across care homes. Without exception, the main meal of the day was delivered at lunch time. Breakfast was normally taken in residents' bedrooms. This seemed to be the expected norm and it was unclear if it was for the benefit of the residents, or the staff. Many residents showed little motivation to come downstairs for breakfast. The evening meal varied across care homes, but often it seemed to be delivered late afternoon and varied from high tea to another main meal with three courses (21). It was unclear whether the timing was for the benefit of residents or staff shift patterns:

“Well we always have soup and then we have a choice of sandwiches or something or other with salad, that’s what I like lots of salad.” (Josephine, resident)

Offering varied and different tea time choices seemed to be a challenge for one care home manager which could impact on the mealtime experience:

“Yea I give variety, umm, funny enough it’s normally tea time I get stuck. Umm it’s something on toast, or an omelette. I try to introduce eggs during the week not too many times I do vary it every-day anyway.” (Kitty, manager, nutrition course)

Residents reported favourably that they generally had the same thing for breakfast, either cereals or toast, with a few having cooked breakfasts:

“Well sometimes breakfast it all depends who’s on sometimes I have it in my room and sometimes I come down, but I rather have it in my room, breakfast, cos there’s no-one who comes down you see otherwise I couldn’t be any better.” (Bill, resident)

“Um I have a Weetabix, I take my tablets I drink a glass of water, then I have a cup of tea then I drink a glass of orange juice, which I enjoy, I enjoy all my breakfast, then I pour warm milk over my Weetabix, I eat all that and then I go back after that and for the rest of the cups of tea, I normally get three cups of tea out of my little tea pot.” (Ellen, resident)

Several homes reported that they had a four-week rotating menu plan for main meals, but had intermittent gaps whereby spontaneous meal variants could be delivered. These varied according to weather, seasonal food, residents’ individual requests or to account for celebrations or events and add variety to mealtimes:

“That was basically how it went and we have still left two gaps in our four week plan so that on those two days we can get a suggestion – what do you fancy next Tuesday . We can then take extra suggestions from the residents and that is sort of how it has gone” (Janet, manager, nutrition course)

“Yes it (the menu) lasts every month but sometimes we do things differently and do like a moussaka or a chicken korma or chicken fried rice, they like that or salad, strawberries, we have been doing asparagus a lot recently and a few people like that.” (Lynn, manager, nutrition course)

One care home reported that they were less structured and had no menu cycle. The dishes of the day were chosen by the manager depending on weather, season and mood. This lack of structure meant the home was reliant on the manager to make the decisions:

"I think eating is an important part of living so we don't have a rolling menu we are reliant on me which is frustrating from my staff so we will use a lot of seasonal food." (Gillian, manager, dignity course)

Small private businesses had full control of their menu. Some of the care homes reported to head offices and these had less control at a local level over what foods were, and were not included in the menu cycle. A degree of adjustment seemed to be allowed to ensure some local preferences were accounted for, but full flexibility was not possible. Ensuring nutritional standards were met appeared to be more important for these organisations than local food preferences:

"We haven't had to make any changes, mind you head office are very particular.....so what we do, they send us the menu to all the homes and we can alter it how we want and then it has to go back so they can OK it. That's right though so they approve it and make sure they are getting all the right nutrients and everything." (Greta, deputy manager, dignity course)

Residents were largely unaware of the repeating pattern of menus. They seemed content with not having to decide what to prepare:

"They usually come and say we are going to have pasta today and I say ooh good and sometimes they have done something wasn't that lovely and I send a message back, they are very good and they say to me we are going to have curry tomorrow and it varies, very variable." (Vera, resident)

"Not really, they give you a general mix around. You never know what's coming. We can ask them what we are having today otherwise they mix the menu up very well." (Josephine, resident)

5.3.1.2 Temperature of food

One home (43) was observed to measure the temperature of the food just prior to serving. This food was brought to the dining room from the kitchen in a hot trolley, about 5 minutes later than planned. A probe was used to record temperature which further delayed lunch being served. On this occasion, it was above the minimum requirements, but it was unclear if residents would have been expected to wait longer if the food had to be returned to the kitchen. From a food safety perspective, it is important that hot food is served above 63°C, but this visible step added an extra institutional tone to the food-service that could have negatively impacted on the mealtime experience. This procedure was not observed in any other care home.

Generally residents were content with the serving temperature of the food, although there were some comments about it either being too hot or cold:

“It can be too hot, I’ve seen some of the ones who are fed and they say it’s too hot, well the server doesn’t know so until someone says.” (Lois, resident)

“I sometimes find the tea is very cold when it comes because we are easy to serve so we are left to last and recently I have had cold tea and that is not nice occasionally they make another one.” (Josephine, resident)

Challenges for serving food at the correct temperature were worse when food was served in residents’ rooms. Most homes were aware of this and staff brought the courses separately to avoid this, particularly if consecutive courses were served hot:

“The main course comes on one plate, if the dessert is hot it will come up later than the main course.” (Vera, resident who chose to eat in her room)

One resident reported that all her food and a hot drink were brought up on one tray. This meant that hot foods were tending to cool down before they were consumed, which was identified as the biggest criticism of this type of serving method:

“Yes I don’t know how it could be worked out as it will make extra work but I wish soup comes up with the main food and so does the coffee and I would like the coffee to come later so it is really hot.” (Pat, resident)

5.3.1.3 Sensory appeal

Figure 22 Percentage of responses, by course, to the statement ‘Food for all the residents always looks appetising including for those residents requiring special diets’

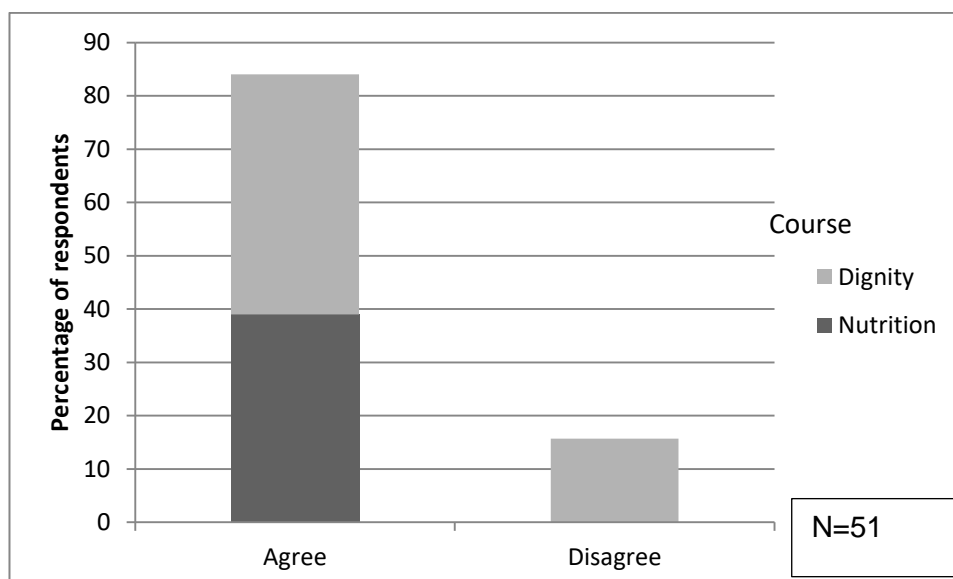
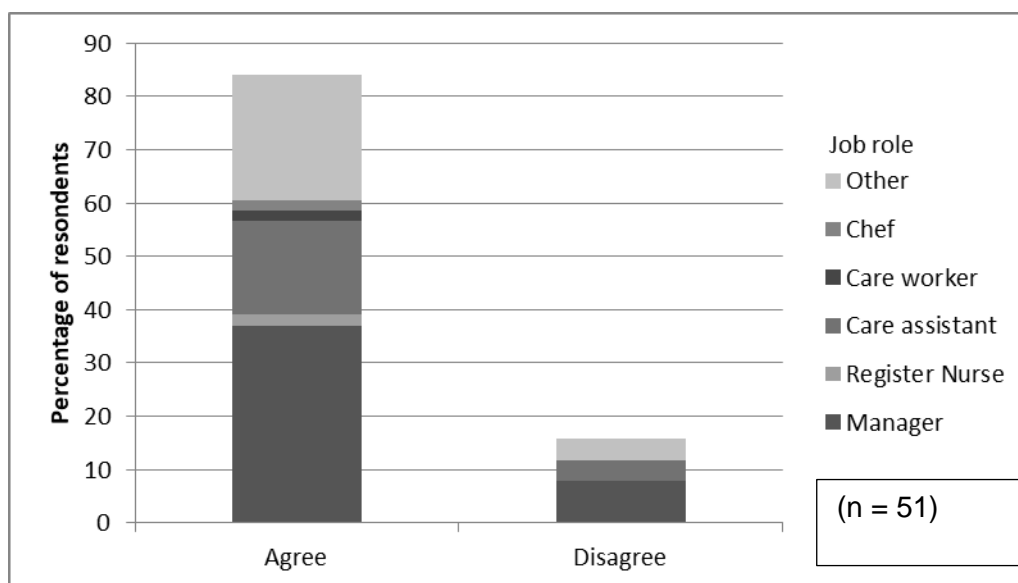


Figure 23 Percentage of responses, by job role, to the statement 'Food for all the residents always looks appetising including for those residents requiring special diets'



The quantitative data shown in Figures 22 and 23 identify 84.4% of questionnaire respondents agreed to some extent to the statement that 'Food for all the residents always looks appetising including for those residents requiring special diets'. There is a statistical difference between the responses from the staff on the two different courses ($p=0.002$) but not job role ($p=0.933$). This is supported by the interviews that identified that presentation was important to encourage food intake and maximise the mealtime experience. The sensory appeal of fresh fruit and vegetables was regarded as important in doing this. Vegetable garnishes were recognised to add visual appeal to food on plates although residents did not necessarily seem keen to consume them:

"We offer a lot of fresh vegetable and although salads are not popular I like to put them on the plate as it makes the rest of the food look nice. Often salads are returned to the kitchen uneaten though." (Claire, manager, dignity course)

"It's very well presented, if it's a salad it's very pretty and you think it would be a shame to disturb it." (Pat, resident)

One care worker realised that having bowls of cut, easy to eat fruit available that was well presented could encourage consumption:

"It is all very well having bowls of fruit but having it given to you like we had for the morning snack or afternoon, I can't remember there was so much food but one of the snacks we had a bowl of chopped up mixed fruit and a bit of cream"

and we were able to pick at it and not feel we had to finish it and it was quite refreshing as well.”(Jean, care worker, dignity course)

Some care homes were fortunate to have some form of kitchen garden. The benefit of these very fresh vegetables was recognised to add enjoyment to the mealtime, by one member of staff:

“We are hoping to freeze a lot of the vegetables. They do enjoy the stuff from the garden.” (Vicky, team leader, dignity course)

Many residents reported that they or partners had grown their own vegetables at home and benefitted from these fresh in their meals. These life histories identified strong relationships with different foods and especially vegetables:

“I had a lot of ratatouille with lots of vegetables. I am a great lover of lots of fruit and vegetables with plenty of virgin olive oil because I think that lubricates you and I never ever had trouble with my bowels..... Oh yes we had a great big garden and an allotment and then my husband asked the neighbours if he could use a bit of the neighbours spare garden and he would grow vegetables in these spare patches and he would give them some of the vegetables. We had so much fruit and pruning the fruit. I loved gardening.” (Betty, resident)

However, discrepancies existed between staff and residents about the origins of vegetables. One care home manager reported that she only used fresh ingredients, whereas the resident interviewed was convinced only frozen were used and was disparaging about the consequent changes to sensory appeal:

“We offer a lot of fresh vegetables (Claire, manager)*.....I doubt it they use frozen veg.”* (Nancy, resident)

The same resident complained of food being overcooked and insufficient salad on the menu:

“I love sprouts but here they are so well cooked they are soggy and I have to close my eyes to eat them..... They have these other people, I was telling my daughter the other day I saw the other day that there was a little bit of salad on every plate with I forget what and when they came to collect it all the salads were left.” (Nancy, resident)

Pureed food can add challenges, as the textures that normally contribute to sensory appeal are lacking. The experience of one dignity in care attendee was poor during her experiential training, and she found that it was not just the texture that was different, but also the flavour of the food:

"I knew it was going to be different but for me it was the textures and for me if I ever have to have a pureed diet I would miss the textures of things..... You know that makes the taste of things different."(Vicky, team leader, dignity course)

Different ingredients were recognised to stimulate taste and this had been suggested on the nutrition course. The improved sensory appeal was reported to positively develop the mealtime experience as residents were reported to increase their food intake:

"I have made an effort to add in special flavours – tomatoes, fresh herbs to improve the flavour and many of the residents eat more." (Helen, owner, nutrition course)

5.3.1.4 Serving method

Serving method of how food was served for the main meals observed was not identified by any of the course attendees. From observation, food was served in one of two ways:

- Plated and served in the kitchen, particularly if it was close in proximity to the residents' dining room (1, 5 9, 10 20, 21, 22, 23, 24, 25, 51, 52).
- Brought from the kitchen in hot trolleys that were then plugged in and act as the servery in the dining room (41, 42, 43).

Most homes were observed to bring the dessert out from the kitchen ready served and in many, there were no visible options - presumably because each resident had prechosen before the meal. One home had a dessert trolley (25) that toured the different tables offering choice at the point of delivery.

Food was plated up and taken directly to the residents either in the dining room or in their own rooms. Residents did not seem to question this method of presentation:

"....all the dinner is dished up together on the plate – it just comes out of the kitchen like that." (Betty, resident)

For those who like to eat in their rooms, each course was either brought separately or all courses were brought together at the same time:

"Well they take all this off first (pointing to the clutter on her table) comes off first and then they bring in the main meal and then they bring that and I eat it and then I ring my bell and then they come back and they say would you like so and

so or something else they ask me what I would like for afterwards. You know...I choose what I want for pudding.” (Heidi, resident)

“Well it slightly varies tends to all come at once because mostly the third course is going to be cold anyway but if it is cold there is no problem there. The main course comes with the first course which is eaten in two minutes or so.” (Frank, resident)

Twenty five per cent of respondents reported that vegetables were served by residents themselves. This is supported by observations. In a few care homes (1, 5, 25), where the meat/fish and sauce were plated in the kitchen, serving dishes were used for vegetables and potatoes for residents to either independently help themselves or be served, depending on frailty requirements. This gave a degree of direct choice of what vegetables they wished to eat, positively impacting on the mealtime experience:

“The meat comes out on the plate if its carved, then they bring the usual dishes with a lid on them, what do you call them...like a serving dish, yes that’s right then the staff serve you with the dessert spoons or whatever.” (Lois, resident)

The quantitative data identified that 35.4% of respondents reported that gravy was self-served by residents. This was not observed at mealtimes, when sauces were normally served directly onto the plates, only occasionally was it observed more was brought out for those who would like extra. Of those residents interviewed no-one identified this as a problem and did not impact on the mealtime experience:

“Yes not too much it’s not swimming in gravy but just right.” (Vera, resident)

5.3.1.5 Length of meal

The quantitative data identified that less than 12% of respondents felt that residents were rushed. This does not agree with observations and demonstrates a difference in opinion between staff, residents and what is actually happening in practice. Staff at one of the homes (5) actively rushed the residents to complete their meals, with staff hovering near residents to hurry them. Plates were taken away as soon as the last mouthful of food was eaten or residents appeared to have finished. A number of care homes had carers who took the plate away immediately someone had finished their meal and before others on the table were finished, there was no opportunity for a second portion to be offered in these instances and the dessert was offered immediately (10, 20, 21,22). It was unclear if this was due to staff shift patterns or for the benefit of residents. This was confirmed by one resident:

"I sometimes find the tea is very cold when it comes because we are easy to serve so we are left to last and recently I have had cold tea and that is not nice.... In the evenings at supper time that's 5.0 here, and then the staff want to go off on the end of their shift.....They finish in half an hour....They stand over you if you are slow and wait for you to finish and grab your plate as soon as its empty. Sometimes, if you are the last to be served then they can be rather quick and grab the tray and you haven't had time to eat what they brought you."
(Josephine, resident)

5.3.1.6 Portion Sizes

Figure 24 Percentage of responses, by job role to the statement 'There is often food leftover on residents plates at the end of meals'

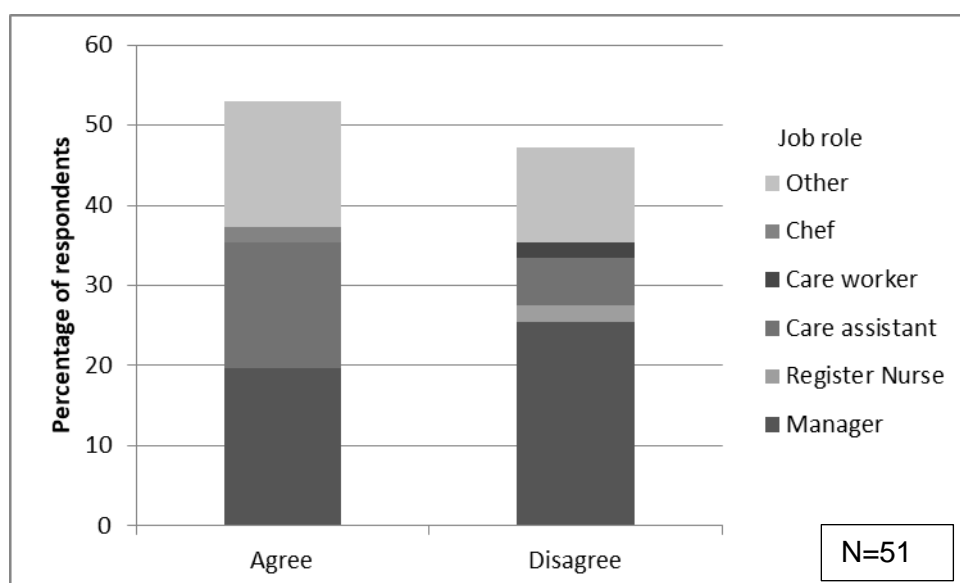
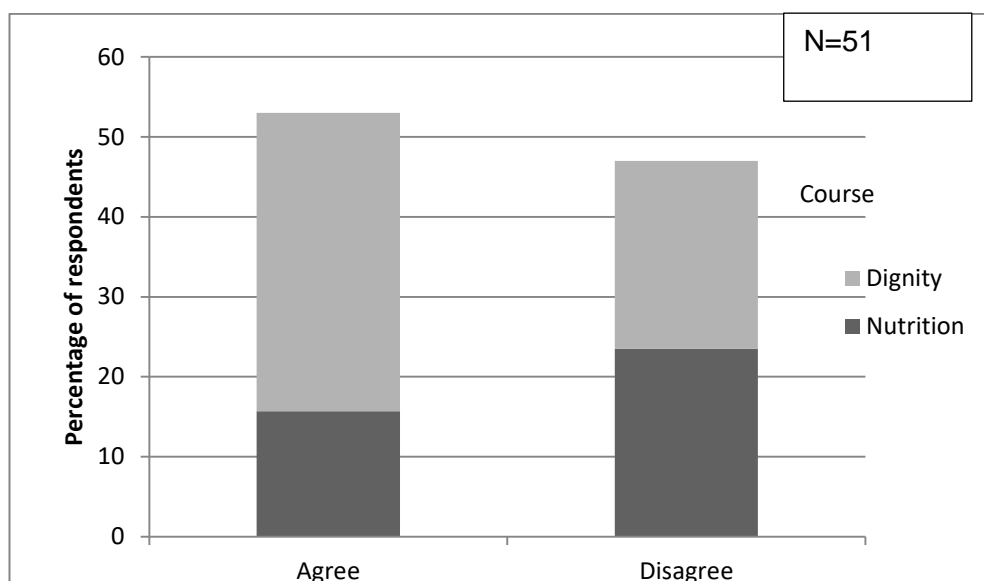


Figure 25 Percentage of responses, by course, to the statement 'There is often food leftover on residents plates at the end of meals'



The quantitative data shown in Figures 24 and 25 shows that 52.9% of respondents agree to some extent that there is often food leftover on residents' plates at the end of meals, although there is no statistical differences for responses for either job role ($p=0.233$) or courses attended ($p=0.137$)

The amount of food consumed varied with some residents finishing their meals and others leaving considerable amounts on their plates. Only a few homes (1, 20, 22, 51, 52) were observed to offer extra helpings, although many residents reported to not want large portions, but interestingly, residents reported their hunger varying on different days and at different times:

"I have an empty plate every time. They don't give you lots and lots but just the right manageable amount.....I have a very small appetite, I eat my vegetables, carrots and things, and a little bit of meat, not always. Sometimes I have a reasonably good meal but a lot of the time I'm not hungry." (Josephine, resident)

"I don't leave anything very often they know how much I want, I always have a smaller plate as I don't like bigger meals, I don't have a big plate but there is always plenty for me you know.....Sometimes they come round and ask and they ask us if we would like another fish cake, sausage or whatever egg or something like that. You can have a bit extra if you want it its pretty good here." (Betty, resident)

One resident had realised the impact of portion sizes and had specifically asked for smaller amounts of food on her plate:

"They always say leave what you can't eat but I don't like doing that but I say give me smaller helpings that I would prefer as it doesn't go to waste then does it?" (Madge, resident)

She also recognised by overeating at lunch time, then she did not want anything to eat later in the day:

*"Sometimes if you get a large portion but that's not a problem you can just leave it. Yesterday **** bless him came through and said does anyone want any more and I said oh yes I'll be a pig today. Go on then he said he was lovely. Of course then I didn't eat much tea." (Madge, resident)*

Once again, the influence of the auditors came up and concerns from one manager whether he would be viewed negatively by others if he offered small portions:

"If CQC walk into the room and they see someone who has a small dinner do they presume they are giving the small dinner because we want to cut our costs

shall we say - a view as if there is a culture of that, rather than the fact we are giving a small dinner is because they want it, and giving them a large dinner will be too daunting and put them off.” (Philip, care worker, dignity course)

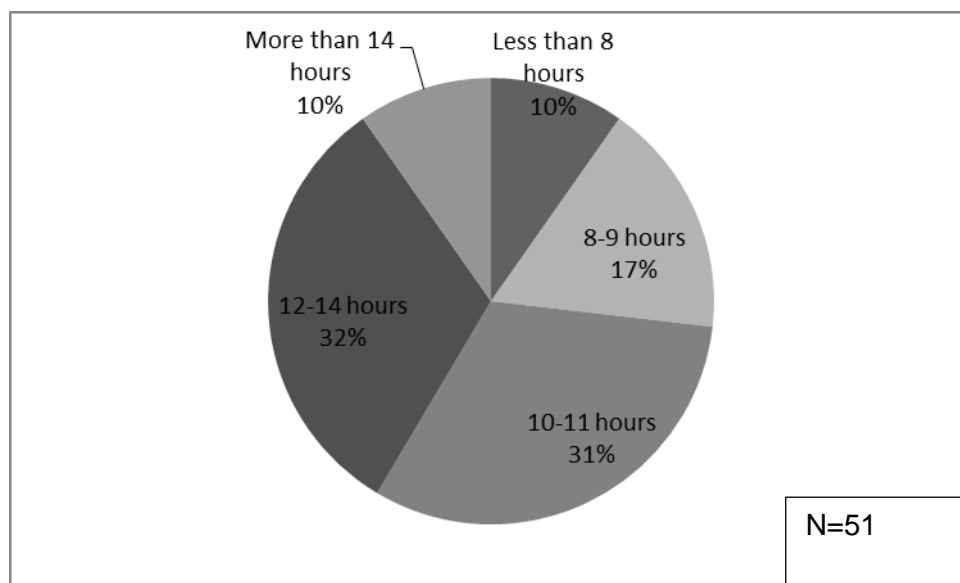
There was an association between those staff who had tended to go hungry on the dignity course and who had then returned to their care homes and started to offer more snacks:

“I noticed that I was hungry and I didn’t have things in my room to nibble on and things like that.” (Liz, managers, dignity course)

Those course attendees on the short course did not consider portion sizes.

5.3.1.7 Food availability

Figure 26 Percentage of respondents who reported the length of time between evening meal and breakfast



The length of time between the evening meal and breakfast is reinforced from the quantitative data shown in Figure 26 which shows that 63% of respondents consider there to be between 10 and 14 hours between these meals. The interviews have already identified, that it was common in care homes to serve afternoon tea or supper late afternoon, which can coincide with many residents’ traditional lifestyles. The length of time between evening meals and breakfasts was acknowledged, again by those care staff attending the experiential dignity course, and could have been because of their own experiences of feeling hungry. This resident identified how the mealtime experience could be improved by having extra snacks mid-evening to fill a hunger gap with residents:

“We’ve started having sandwiches available at about 9.0 in the evening. We have always had snacks if residents ask for them but now chef makes up a plate of sandwiches for later and these are offered around. I found I was quite peckish at that time when I was on the course.” (Claire, manager, dignity course)

5.3.2 Hydration

5.3.2.1 Availability

Figure 27 Percentage of responses to the statements ‘Percentage of respondents who believe it is common practice to monitor and record what a patient is drinking all the time’ cross tabulated against ‘There are a wide range of drinks on offer all the time’

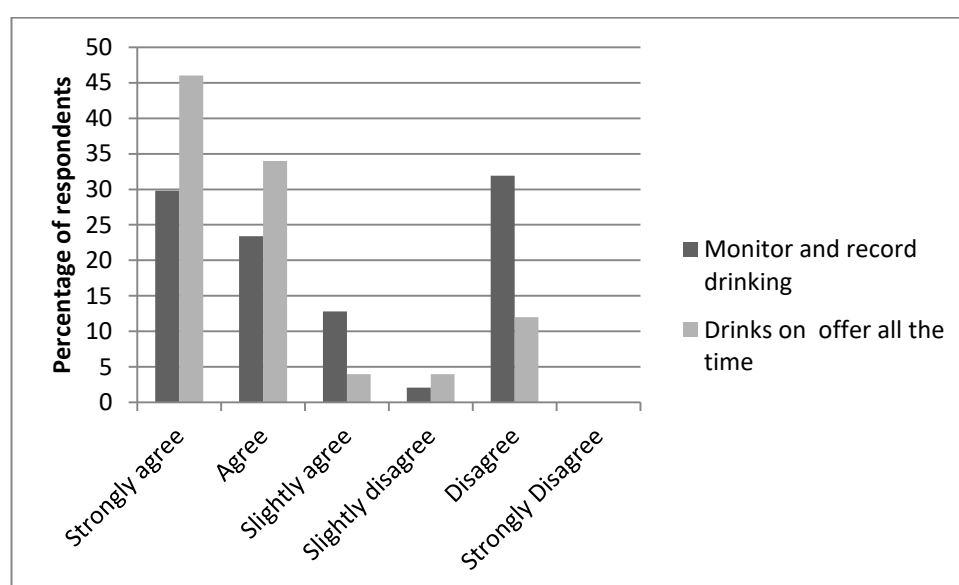


Figure 27 shows the percentage of responses to the statements ‘Percentage of respondents who believe it is common practice to monitor and record what a patient is drinking all the time’ (n = 47) cross tabulated against ‘There are a wide range of drinks on offer all the time’ (n = 50). 66% of carers responded that they agree to some extent that they do monitor what residents are drinking all the time. 15% of staff responded that they disagreed that drinks were on offer all of the time. There was no statistical difference between those who disagree that they monitor and record drinking against staff ensuring they have drinks on offer all the time. (p=0.164). The qualitative observations corroborate the variation in the availability of drinks. Two homes (5, 9) forgot to bring out drinks at the main meal observed, and in these cases, no choice of drink was available or offered. Consequently, there was a risk of residents becoming partially dehydrated leading to related health problems and ultimately negatively

affected the mealtime experience. Rarely were residents ever observed to be asked by staff, if they wanted another drink. Some care homes (9, 10, 20) filled the cups before residents sat down, making assumptions about presumed drink preferences and that residents were sitting in the same place each day. Most homes set the tables with glasses at lunch times - these varied from small glasses, wine glasses and glass tumblers. One home (23) had one pint plastic glasses. These large glasses would be heavy, especially when full, for the weaker residents to lift.

Availability of drinks was identified as an issue for this person, who had been on the dignity course and had not been given drinks:

"They asked us what we wanted with our meal and gave it to us but after that first glass then they didn't ask us again. They never asked us if we wanted anymore and we had to ask". (Liz, manager, dignity course)

Residents commented on having to regularly ask for drinks and how other tasks can take precedence:

"I often have to ask for drinks but they will give it to you..." (Doris, resident)

"I drink water - you just have to make sure you get it.... You can always have tea or coffee any time of day or night.....But you have to ask for it sometimes." (Josephine, resident)

"It (the drink) all needs changing now as they didn't do it this morning..... The water needs changing..... The water needs changing. Because my son came this morning and all of that happened then they haven't done it." (Heidi, resident)

One resident commented how many drinks she was given during the day, supporting the quantitative data, of the variations between the practice of care homes:

*"Ooo yes, L**** brings me a cup of tea early in the morning, when I have my breakfast I have two cups of tea with my breakfast. Some mornings she pops her head in the door about 6.0 and says is it too early for a cup of tea, that's really nice as I am used to getting up early. I have my coffee about 10.20 which is lovely and lunch time I have another cup of tea after my meal and sweet and then a cup of tea about 3.0 and then another cup with my tea about 5.30 and then a cup of Horlicks last thing at night."* (Vera, resident)

Water and more often squashes and fruit juices were the most common drinks at mealtimes:

"We have a choice of orange pineapple, fruits and apple juice, water and flavoured water and ordinary water that's really, really cold cos it's kept in the fridge." (Madge, resident)

Hot drinks appeared to be popular. It was observed that teas and coffees were normally served after the main meal. Residents either drank them in the dining room,

especially the more convivial sociable dining rooms, or requested them in their room or in the lounge areas:

“Most of them drink plenty here and they can have tea or coffee at any time as well it’s not like a certain time like lunch time or dinner time, they can have tea or coffee all day long.” (Liz, manager, dignity course)

Drinks late at night were reported to be often milky drinks although the issues of drinking in the evening were identified by one resident:

“Ovaltine made with milk before I go to bed. If I want it all depends on what I feel like and it’s about getting up at night.” (Heidi, resident)

Hydration was noted as being important by some staff as there was some discussion about increasing fluid intake and how to do this:

“One minute, you really don’t want them to go to hospital, and are working hard to stop them being dehydrated.” (Beatrice, owner, nutrition course)

5.3.2.2 Reminders

Residents revealed that they did not always feel thirsty:

“Oh yes but I’m a devil I don’t drink enough it’s always been the same with me – I don’t drink enough.” (Josephine, resident)

They consequently relied on staff to remind them as they often forgot to ask for a drink, but on no occasion whilst observing mealtimes did staff remind residents to drink.

Residents realised this task could be forgotten by care staff:

“If it’s not always right in front of you then you don’t think about it, sometimes we have to ask.” (Josephine, resident)

Although the reactions to being reminded were variable and in some care homes, residents felt they were constantly being reminded and had a ready available source of drinks:

“They bring it round 2 or 3 times a day. I need to keep drinking all the time. They plonk it there and say there are 2 drinks there and by the time I come back it all needs to be finished.” (Bill, resident)

“Everyone here gets encouraged…….This is here permanently (pointing to a jug of squash) and every day they come and top that up. There is a choice between lemon and blackcurrant and orange . We are not short of drinks and we are encouraged to drink they come in and say make sure you are drinking up or you haven’t drunk enough today or yesterday which is considered to be good for us.” (Lois resident)

One manager identified the issues of encouraging residents who were too ill to drink much, at one time. She encouraged them to sip small amounts of fluid at every opportunity:

“One minute you really don’t want them to go to hospital and are working hard to stop them being dehydrated you know you’re not sure what to do. At the end we gave it to her if she opened her mouth and if she didn’t then we wouldn’t give her anything.” (Helen, Owner, nutrition course)

5.3.3 Engagement of other health professionals

Ninety two per cent of staff reported observing residents for undernutrition although only 52% of respondents used ‘MUST’ themselves to screen and identify those residents at risk of undernutrition. Despite some evidence of screening, staff found it difficult to get support for residents at risk of undernutrition. Anecdotal evidence, from conversations with care staff, during observations (not recorded as interviews) suggested it was difficult to access dietetic support for residents. Dietetic support was accessed through GP surgeries and the relationship with the local GPs varied:

*“We have a good rapport with the GPs , which is rare as everyone puts weight on when they come here, it’s good to see. We ‘MUST’ everyone. I normally get them when they’ve been in ***** Hospital for three months, they’re not eating they’re depressed and they are sick of hospital food and you see this woosh of weight gain and its great but then you see someone and it flags up an issue.” (Liz, manager, dignity course)*

“We had a resident who when she came here she was not eating at all and so she was really skinny and not eating and then I referred her to GP and he referred her but I did not hear anything and I know they have budgets but this was a lady in the community who needed to be seen. It is no good if they don’t come. I am entrusted by the family to look after this lady and I want her to be well and I asked this question about what happens but they said they would like to look into it..... Also when you refer to the GP and want fortisip and they say they can’t prescribe as it’s too expensive but we did speak to that lady who came to your course and I do buy if I have to.” (Lynne, manager, short course)

Some GPs appeared to regularly prescribe commercially produced fortified drinks which are expensive whereas others seemed to resist this route. They did not seem to offer or arrange any further advice on how to fortify foods to improve the meal experience using a food first approach:

“It’s interesting to know about the special drinks but of course they are going to be quite costly. Our doctors are pretty good anyway and prescribe fortisip and things like that.” (Beatrice, owner, nutrition course)

The problem of prescription fortified drinks was identified by one manager, who felt residents started to rely on them, and these would replace the foods they were given,

taking the emphasis away from mealtimes. This would mean it was hard to wean the residents off the fortified drinks and encourage them to enjoy eating meals again:

“....where they were relying on that (ONS) all the time, they didn’t want food so they were bloating themselves up with that and then at mealtimes they didn’t want it (food)...” (Mary, manager, nutrition course)

This was reinforced, as fortification of food was not obviously routinely carried out. There was a specific session on the nutrition course, on this topic, and as a result of this, these managers had realised how quickly and easily they could make a difference. These managers showed a greater awareness of the different ingredients to fortify foods and increase their nutritional value. They were very aware of their responsibilities in ensuring residents were not undernourished and the need to increase nutrient intake:

“I have gained a lot of knowledge.....It was also interesting to hear from the lady rep that the Calogen extra is just sunflower oil, glucose and milk powder and they sell it for £4.50 a little bottle. Obviously it has the right flavour and the right quantity but I do add these things into the food and its much cheaper and I can do it quickly.” (Helen, manager, nutrition course)

“I think one thing we took out of it was the fact I wasn’t as aware of reinforcing food. Adding extra calories”. (Beatrice, owner, nutrition course)

The role of other health professionals was highlighted by one manager. Dentists were important in assessing teeth and in particular the state of individuals’ dentures, whether they fitted well or needed adjusting and how this could impact on the mealtime experience:

“....and then perhaps if someone is eating less and less then we can say what’s going on is their dentures or what that would flag up to me or others then we can talk to the dietitian.” (Liz, manager, dignity course)

5.3.4 Value of food

5.3.4.1 Role of specific foods

The nutrition course highlighted, to some staff, the advantages of including certain ingredients to promote a healthy diet in a way that residents enjoyed, to ensure an optimal mealtime experience. As an example, oily fish were recognised for their contribution of essential fatty acids and this was endorsed on the nutrition course. Several care home managers talked about the expectation that oily fish should be included in the menu plans because of the auditor requirements of offering a balanced diet. This conflicted with residents’ preferences, as staff identified that fish was not necessarily popular with all residents. This created a particular challenge in meeting

the food preferences of the residents in the smaller homes, where only one menu option tended to be freely available. Fish would mean that another main course would have to be offered for the non-fish eaters:

“If we buy mackerel or trout, they love salmon, but the others we can do once a month or every six months but they are not keen.” (Janet, manager, short course)

“Occasionally like on a Friday I am not keen on fish and they ask me what else I would like.” (Josephine, resident)

As not all residents were keen on fish, this manager had investigated how else to add essential fatty acids to the diet that would meet with residents food preferences:

*“I was in Waitrose in the other day – I picked up this leaflet and it shows rapeseed oil and sunflower oil and experiment with them in our cooking. When I brought this up with our cooky, M**** she said she uses solely rapeseed oil at home.”* (Janet, manager, nutrition course)

Another factor, highlighted by another nutrition course attendee was how she had not realised the reduction of nutrients in canned foods. She had thought were an easy way to provide foods residents enjoyed:

“I was unaware that tinned food lacked so many nutrients, I must confess I didn’t know this, tuna in tins, I didn’t realise that some of them had been cooked out.” (Beatrice, owner, nutrition course)

The challenges of ensuring residents eat sufficient food was identified by one owner who talked about those who had limited appetites. She was concerned about ensuring food was rich in macro nutrients:

“Yes well we had some very good suggestions and advice obviously in care homes there is this undernutrition risk, you know, the elderly people don’t want to eat if they eat they only eat a little bit so now I find I am trying to get the calories in even in a small bite.” (Helen, owner, nutrition course)

A frequent complaint from residents about the food was the lack of variety of vegetables and salads:

“We don’t get a lot of salads.... but a bit monotonous perhaps cabbage, carrots and cauliflower there’s not a lot of variety....” (Lois, resident)

There was a significant challenge in providing sufficient variety of vegetables and fruit for residents. Many residents have chewing difficulties due to ill-fitting dentures, poor jaw movement, sore mouths or lack of teeth. The preferences of residents seemed to vary from those that liked their vegetables well cooked and soft to those who preferred crunchy undercooked vegetables. Chewing difficulties often meant salads were unpopular, despite their recognised sensory appeal:

"I don't chew them up like I should do that's the trouble, salads you have to chew them that's the problem." (Josephine, resident)

"I like salads but I sometimes find my mouth is sore and the celery is difficult to chew." (Pat, resident)

One solution to this was to serve fresh homemade vegetable soups to residents.

These were appreciated and enjoyed:

"But she does make beautiful soup, home-made it is. She does a vegetable soup. She made an asparagus one day, I really enjoyed that it was super I don't think he was so keen." (Ellen, resident)

In addition to a lack of fresh vegetables, there was a perceived lack of fresh fruit available. Occasionally residents mentioned a fruit bowl, but there were none observed in any of the public areas of the care home:

"They like trifles and so on but never just fresh fruit, or just a bowl like an apple or a pear, there is so much fruit and we never see any like pieces or strawberries they would be nice. As far as I'm concerned fruit is important." (Josephine, resident)

Despite the lack of fresh fruit desserts proved to be popular by residents:

"Desserts are excellent; maybe that is one of the best parts. I like the puddings and if we don't like it there is always fruit salad as an alternative." (Lois, resident)

The need to fortify pureed food by adding fats and creams was identified by one manager, who had a number of residents who needed pureed foods. This caused challenges in providing a good mealtime experience, due to the complexities of dysphagia:

"Especially when you liquidise the food it loses its calories you know a lot of ours about four need liquidised food. They will spit it out if it has the smallest of bits in it." (Helen, owner, nutrition course)

3.4.2 Snacks and meals

Figure 28 Percentage of respondents who consider there to be a wide range of snacks on offer all the time

The quantitative data shown in Figure 28 revealed that less than 50% of staff respondents were doing anything specific to add extra snacks to the mealtime experience for residents with small appetites or early satiety.

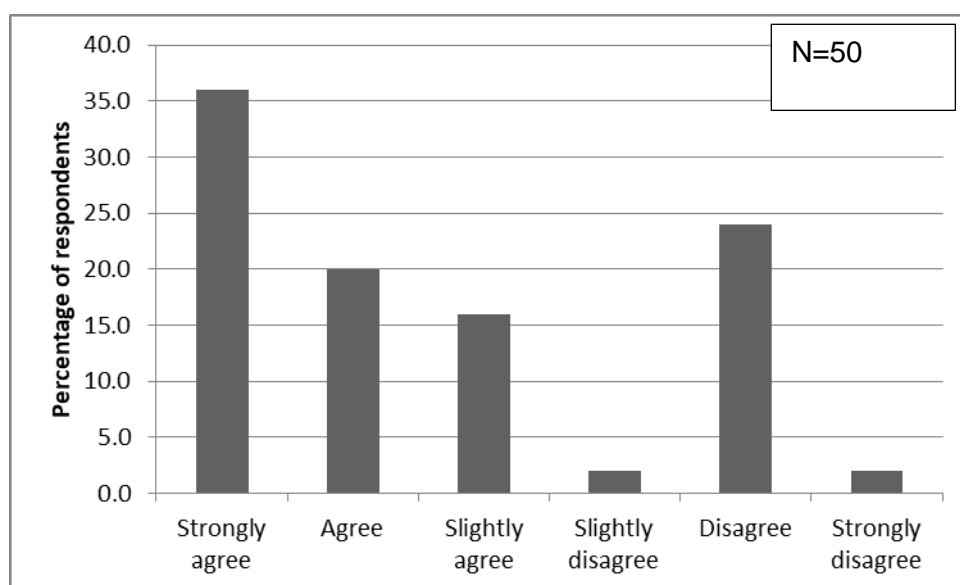
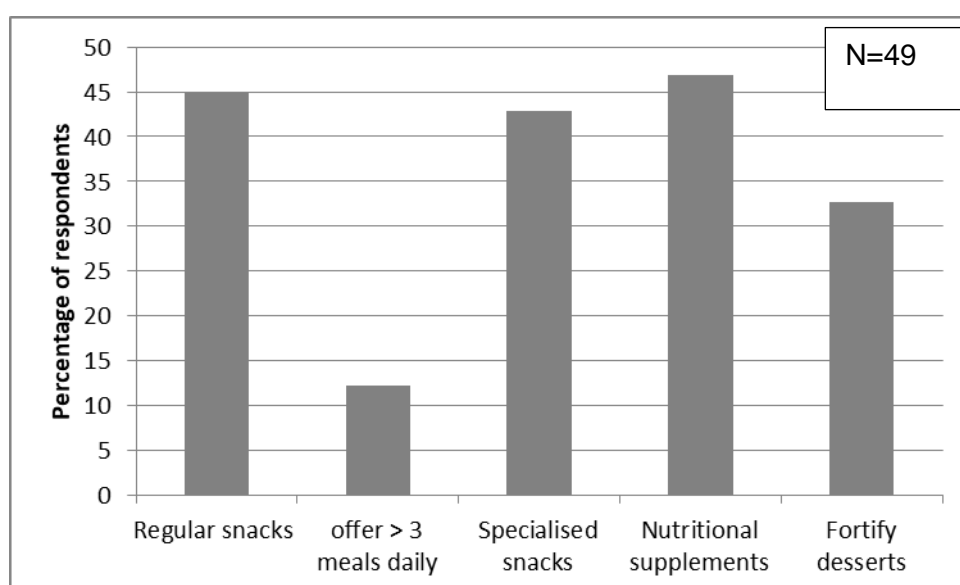


Figure 29 Percentage of respondents who identified what measures they take for people with small appetites/early satiety to ensure adequate food intake?



The quantitative data in Figure 29 shows 72% of respondents agree to some extent that there are a wide range of snacks on offer all the time. This differs from some of the findings from the qualitative data. Particularly staff who had attended the dignity in

care course started to consider the availability of snacks and meals. A number of these attendees commented on the impact of having different types of snacks on offer and making these more widely available throughout the day. Once living in an institution the flexibility of eating when an individual wants is often lost. During the dignity training these managers experienced hunger in the evening. They were only temporarily in the cared-for role and could be used to eating at times outside of those reflected in an institution; however, flexible eating patterns and wider availability of different foods were identified to help provide a positive mealtime experience. One manager had identified how hungry residents with the lack of 24 hour food availability might get between mealtimes and she had introduced a mobile tuck shop:

"I am introducing the tuck shop, that was important, when you look around you will see what we do here nutritionally for our residents. I noticed that I was hungry and I didn't have things in my room to nibble on and things like that..... Even though we know, it's such a nice little nursing home it's like if one of the residents vomited at lunch time so they missed a meal, we are very aware if they have missed that meal but I just think there are always cakes and biscuits but if they want something of their own like a packet of crisps or if they want an apple they can have that. The tuck shop will be up and running and we will fund that ourselves." (Liz, manager, dignity course)

This was supported by interviews from residents who also identified missing food being freely available. Some had gone to great lengths to ensure they had a readily available supply of snacks. They did rely on family members to bring these in as supplying snacks was not seen as a priority by the care home staff in most residential care homes, showing a conflict of opinion between staff and residents and possible barrier to the mealtime experience:

"My family got sick of me grumbling and they bought me that fridge and I have plenty of fruit in there. Also half way through the morning I love stilton and I have stilton cheese and grapes." (Nancy, resident)

"I always prepare for it (the evening). I have some biscuits over there I could use if I want them. I don't seem to and I think the evening meal is quite adequate and I don't miss anything in the evening." (Pat, resident)

Difficulties arise for some residents who do not have family members to regularly bring in snacks and drinks of choice:

"You get to know because it's a small home and families can bring things in if they want and some people who have no-one on this earth then they can have something to nibble on in their room." (Liz, manager, dignity course)

Conversely, many residents regarded there to be plenty of food on offer and could be requested at any time, showing significant variation between residents and care homes:

“If you feel hungry you just say to them can I have a slice of bread because I am really hungry or maybe a piece of toast, cake, piece of cake...” (Doris, resident)

Extending the time food was delivered over the course of the day was also considered by one manager:

“They made those lovely cakes and we eat late and most homes eat earlier and we ate early in the Netherlands and so in the evening me myself I try to ignore that feeling as that’s when you put weight on. I feel if I was in my mid 80’s or 90’s it would be better that you don’t feel hungry and I thought those cakes should have been used in the evening rather than after lunch when we didn’t really need it.” (Gillian, manager, dignity course)

Residents did not identify with undernutrition risk. They recognised they had small appetites and acknowledged that they had lost weight when in hospital. They did not seem to notice if food was fortified or the health risks associated with a low weight:

“I have put on some weight since I have been here, I was only 7 stone when I left hospital, I was there for 3 months – the last ward I was in with all the ladies who were a little bit funny.” (Vera, resident)

Food fortification was identified on the nutrition course as a useful way to increase energy intake for those residents at risk of undernutrition:

“I think one thing we took out of it was the fact I wasn’t aware of reinforcing food. Adding extra calories.” (Beatrice, owner, short course)

5.4 **Training**

Staff were interviewed following the two training courses. The experiences and learnings of attendees were very different when attending the two courses. As identified previously, the nutrition day classroom-based course focused specifically on practical nutrition advice. The dignity in care programme focused on reflections of being cared for through an experiential training that lasted 24 hours.

5.4.1 **Dignity in care**

Staff who had attended the dignity training became more aware of how the experience of being cared for felt. Food, drinks and mealtimes became a significant part of the learning experience, as these were identified as being a focus of an otherwise uneventful day:

“That was all we thought about the next meal and we would look at the clock and it was another two hours to go.” (Liz, Manager, dignity course)

“.....but perhaps had not appreciated enough what it is like to just sit and so when someone tells you it's going to be half an hour and then after 20 minutes they come back and say actually that's not right it's going to be another half an hour or an hour and that feels like a crushing blow.” (Gillian, Manager, dignity course)

One member of staff identified with the disappointment, when meals were not served as expected. She had been anticipating something that would make her feel better. She related this to past experiences in her own care home when residents had voiced similar opinions:

“I realised how important it is to serve the food up on time and how much you look forward to the meal. One time at Stimul (Dignity course) it was late and I realised how disappointed I was and then realised why our residents kick off if the food is not there when they want it and expect it.” (Claire, manager, dignity course)

The dignity course focused on individuals experiences. They developed increased respect for the needs of the residents and a more complete understanding of what person centre care at mealtimes meant both to themselves and through collective reflection of others:

“I noticed that I was hungry and I didn't have things in my room to nibble on and things like that. Even though we know, it's such a nice little nursing home it's like if one of the residents vomited at lunch time so they missed a meal, we are very aware if they have missed that meal but I just think there are always cakes and biscuits but if they want something of their own like a packet of crisps or if they want an apple they can have that. The tuck shop will be up and running and we will fund that, our-selves. We'll see how it goes see if they staff don't delve into it.” (Liz, Manager, dignity course)

Staff became more empathic towards residents, but their learnings were interpreted through their own experiences therefore changes tended to be made depending on these. On interviewing course attendees, the reflections from the dignity course were very mixed and depended largely on the amount of food each attendee had been given. This was often to do with the portion sizes given to them during training. Those experiencing overly large portions had become daunted by too much to eat. They became very aware of not trying to compel people to eat for the sake of eating:

“One of the things I felt on the trip and probably learnt is how much they are fed and how much it is constant food, food, food..... I think since we came back I have spoken to the kitchen staff to be aware of the portion sizes that they are giving residents. I think as well I've learnt that if a resident doesn't want it then don't try to encourage them to have it. I feel you can force feed but you do it in a caring way but because you have to do because you are being caring but they are genuinely not hungry.” (Lisa, deputy manager, dignity course)

This dignity course attendee was more aware of allowing residents to eat what they wanted, as they would at home, rather than expecting them to eat the healthy balanced menus designed by the staff:

“Another thing there is a lady which is a bit strange. We thought she was coming to end of life, but we are assisting her and she’s started to pick up and she’s eating more than she ever did before. She is a very tiny lady but she could eat chocolate all day long and she eats more now than before when she was better.” (Lisa, deputy manager, dignity course)

One manager became more aware of those who were new, and also how those who are quiet and demand less attention can sometimes be forgotten:

“I have thought since then because we have a few quiet ones and so I am more aware of that now and I am giving them a bit more attention, I’m not ignoring the rest but giving a little more time they might have had.” (Jean, care worker, dignity course)

The environment was considered, as one manager became aware of the artificial setting they were in whilst on the dignity course and the impact this had on her feelings towards the overall mealtime experience:

“It’s like being in a restaurant but the waiter constantly being there over you, hovering. I found that really, really awful. Also it wasn’t the best environment even though it was the best part of the day, mealtimes, coming together and mainly that.” (Liz, manager, dignity course)

Variations in hunger were common themes for these course attendees who had experienced care. On the dignity course, the kitchen staff were nutrition students with limited cooking facilities and knowledge in catering. The students caring for them had followed a traditional model typically delivered in care homes of set mealtimes. The amount of food available varied between sessions depending on the differing approaches of students attending. In between meals and snacks varied and this experience might have affected staff experiences. On subsequent return and reflection, staff became more aware of having meals available at different times of the day so residents could snack as they wished:

“We have started having sandwiches available at about 9.0 in the evening. We have always had snacks if residents ask for it but now chef makes up a plate of sandwiches for later and these are offered around. I found I was quite peckish at that time when I was on the course. And of course we need to think about the diabetics as well.” (Claire, owner, dignity course)

Different dietary needs were highlighted as being a challenge that needed to be met in order to ensure a variety of foods were available, all the time. One member of staff became more aware of how some residents were hungry outside of the standard meal delivery times:

“I think since we came back I have spoken to the kitchen staff to be aware of the portion sizes that they are giving residents. I think as well I’ve learnt that if a resident doesn’t want it then don’t try to encourage them to have it. I feel you can force feed but you do it in a caring way but because you have to do because you are being caring but they are genuinely not hungry and if they want a sandwich for lunch then let them have a sandwich for lunch but then if they want sandwiches at 2.0 in the morning because they are hungry they that should happen as well.” (Lisa, deputy manager, dignity course)

In conclusion these individuals became more aware of some of the psychological and social determinants of food choice and availability as well as the social and environmental organisation of food and drink delivery. The focus on dignity enabled them to think holistically about how mealtimes impacted on quality of life and wellbeing of residents.

5.4.2 One-day short nutrition course

The one-day course focused on conventional nutritional awareness. This meant the learnings were more technical in their nature, based on the information content of the course. The course included: UK based nutritional recommendations, special diets for health needs, undernutrition assessment using the ‘MUST’ screening tool, boosting energy and nutrient intake through food fortification and aids to facilitate eating. Course attendees had tended to take away key learnings depending on the needs of the care environment in which they worked. They appeared to focus on a few learnings from the course and put these into practice:

“In summary what we have been doing more of since the course is:

- *Eatwell – to assess a balanced diet with our menus*
- *Recording what we do*
- *Variety of food*
- *Talking to the residents more*
- *Thinking about oily fish and omega 3’s’* (Janet, Manager, Short course)

I have gained a lot of knowledge.” (Helen, Owner, nutrition course)

One owner highlighted how she had become more confident in delivering good nutritional care to residents and the training had reinforced that they were doing what was expected of them by the auditors:

“Actually yes it certainly did that and it gave me a confidence that I am doing the right thing. I have now heard it from the official body and seriously I could say we are aware of that and we do that.” (Beatrice, owner, nutrition course)

The staff tended to focus on the nutrient content of foods as well as the undernutrition element of ensuring sufficient intake of different nutrients. One care home manager had reflected on how to improve essential fatty acid intake in foods served as bony oily fish was not popular with her residents:

*“I was in Waitrose in the other day – I picked up this leaflet and it shows rapeseed oil and sunflower oil and experiment with them in our cooking. When I brought this up with our cooky, M**** she said she uses solely rapeseed oil at home. We’ve tried with the oily fishes – they’re not that keen. If we buy mackerel or trout, they love salmon, but the others we can do once a month or every six months but they are not keen.” (Janet, manager, nutrition course)*

Another who used a lot of tinned food realised how they were not as nutrient rich as fresh food. She also became more aware of how to increase energy intake through food fortification with dairy products:

“I was unaware that tinned food lacked so many nutrients, I much confess I didn’t know this, tuna in tins, I didn’t realise that some of them had been cooked out. I have rethought that to a degree, and certainly adding things like margarine to fortify, we do it but I hadn’t really thought about it but it is a perfect way to bang up the calories in the same way that you or I would bang down the calories.” (Beatrice, owner, nutrition course)

Additionally, this owner had considered how to improve the flavour and nutrient content of main meals through the addition of different sensory enhancing ingredients:

“But lentils you can add them to portions of stew and make it nice and creamy especially red lentils make it nice creamy. Stew with lots of tomatoes, fresh herbs, pumpkins and red lentils and meat you can mince it and they eat it much better. I have made an effort to add in special flavours – tomatoes, fresh herbs to improve the flavour and many of the residents eat more.” (Lynn, owner, nutrition course)

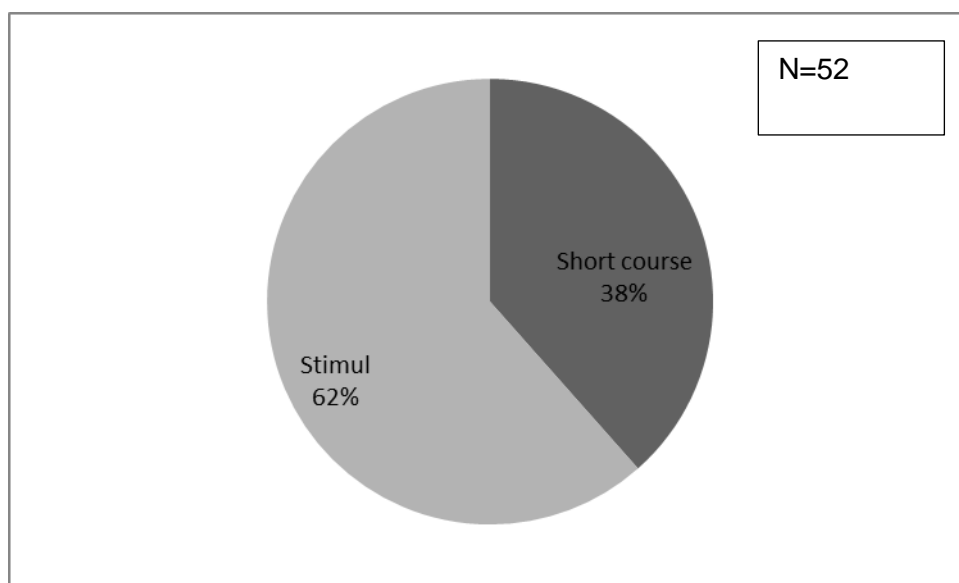
One session on the course discussed the requirements of the national audit organisation, CQC. One of their essential outcomes is to consider person-centred care and account for food preferences, which one care home had implemented on return:

“We had a meeting.....We said well OK we’ll factor in all the suggestions you have made into the lunchtime menus and we’ll take the suppers at a different time. That was basically how it went and we have still left two gaps in our four week plan so that on those two days we can get a suggestion – what do you fancy next Tuesday. We can then take extra suggestions from the residents and that is sort of how it has gone. I guess the meals are slightly less formal than they were.” (Janet, manager, nutrition course)

These individuals became more aware of the technical themes that contribute to the overall mealtime experience.

5.4.3 General training

Figure 30 Percentage of people attending each course who completed the quantitative questionnaire prior to training



Neither training programme was accredited or had a final assessment. This could have affected focus and learning with either course:

“One thing I have noticed about training. I went on a food safety course in Bournemouth. They had complete undivided attention of the audience because of course we were going to do an exam at the end of the day.” (Beatrice, Manager, nutrition course)

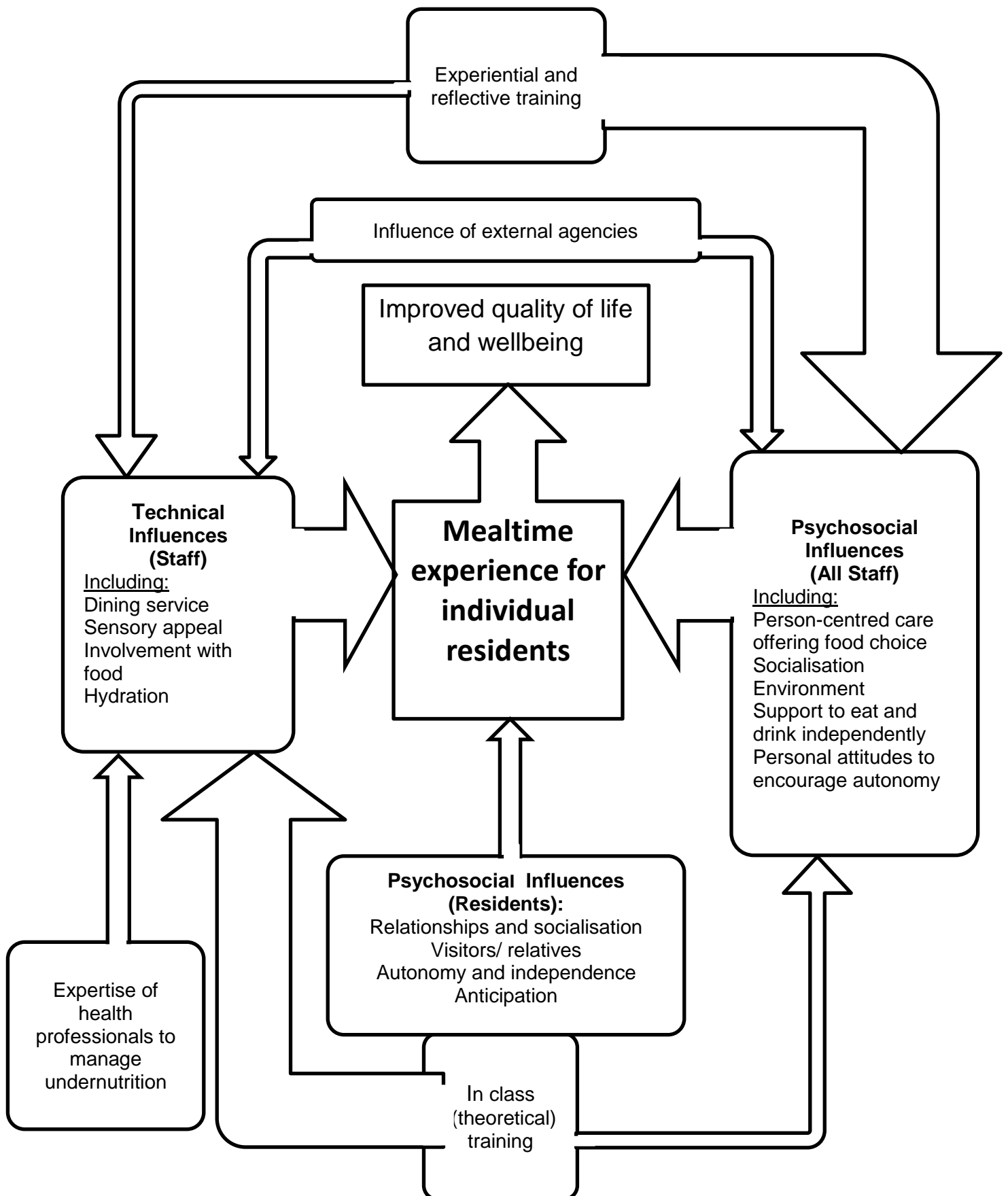
The benefits of the type of training were highlighted by the same manager:

“Of course face to face is much better than all this e-learning stuff, printing things off and reading it at home and doing work on your own. The mind-set is different when you are in a classroom. You remember it, when you do lots of reading and then you go back and find the answer. When you are on a course you are there and you can focus on the subject.” (Beatrice, Manager, nutrition course)

5.5 **'MealCare' model**

The data that has been presented earlier in this chapter was critiqued holistically and has resulted in the development of a new theoretical framework of the overall mealtime experience for the older residents entitled 'MealCare'. This framework presents the holistic factors of the various themes and sub-themes elucidated during the data analysis in a manner that inclusively connects them all. The 'MealCare' framework identifies and incorporates the psychosocial influences of the mealtime experience shown in Figure 6 with the important aspects how staff support residents (Figure 12) and personal attitudes of both staff and residents (Figure 15). These are critiqued alongside the principals of dignity, autonomy and independence of residents that were highlighted in earlier chapters of this thesis. The technical themes from Figure 21 which include food-service, involvement with food and hydration as well as the role of health professionals have in helping care staff to manage undernutrition and consequently impact on the overall mealtime experience. The present study has demonstrated how training can strongly influence knowledge and understanding for staff of specific aspects of the mealtime experience. However, without the management and support systems in place to support any change, staff feel powerless to make change to positively influence mealtimes. The themes brought together in the 'MealCare' framework combine together to deliver a person-centred mealtime experience that considers the holistic support from all staff, resident interaction and influence of visitors. The new 'MealCare' framework is presented in Figure

Figure 31 Mealtime experience for those in long-term care (MealCare) model



6 Discussion

6.1 Introduction

This chapter draws together the primary qualitative and quantitative research data presented in chapter 5 with the current knowledge from the literature in order to answer the aim of the present study: to critically explore the factors that affect the extensive meal experience for the older person in long term residential care in order to identify the enablers and barriers for good nutritional care and promote wellbeing and quality of life. Misunderstandings between residents' expectations and staff understanding of the mealtime experience are highlighted to identify obstacles to delivering good nutritional care for older residents in long-term care. Agreement between residents' views and staff perceptions and their reported opinions are brought together, to determine what constitutes good mealtime practice in residential care. It is important at this point to highlight that only the significant themes from chapter 5 that add value and contribute to the research evidence base will be discussed. These findings are critiqued in a consistent manner to the two major themes in chapter 5 with the differences between and benefits of the two different training courses to staff understanding of the mealtime experience critiqued where relevant:

- Psychosocial influences of the mealtime experience in section 6.3. The themes from the data are presented that include person-centred aspects of offering food choice, relationships with others and social environment.
- Technical approach in section 6.4 to include dining service, involvement with food, hydration, role of health professionals.

6.2 The participants

Staff who participated in the present study represented care homes with a wide range of numbers of residents (7 to 60 residents). Ownership varied from private individuals running a single care home to larger organisations with a number of care homes within the business. The size and ownership were typical of UK care homes (CQC 2014a). Staff who participated in the present research varied in their job role within the residential home setting. Managers, owners and care assistants made up the majority of the responsibilities represented. They characterised their functions as being directly responsible for delivering personal care to the residents in long-term social care settings, and their contribution enabled full understanding of food

and drink delivery in the participating care homes. Interestingly, although there was a category in the questionnaire for nurses, very few participants recorded this job role. There is a lack of national data available to understand how many managers of care homes have nurse qualifications, but informal conversations led the researcher to believe that many managers held either social work or nursing qualifications in addition to their leadership qualifications. Care homes with nursing care must provide a registered nurse, but this does not need to be the manager (CQC 2014b). Indeed, the manager has many business and leadership responsibilities outside the scope of nursing care (Orellana et al. 2017), and this may mean their perception and attitude to mealtimes will be different to practicing nurse. Interestingly, a study by Dunworth and Kirwan (2012) found no difference in responses to a questionnaire about core care values between managers with social work qualifications and those with nursing qualifications. The views of cognitive older residents were also used to enlighten this study, in order to gain a full understanding of the mealtime experience from articulate individuals.

The nutrition and dignity courses were represented in both the qualitative findings and quantitative data. However, there was a greater representation of attendees from the dignity course than the nutrition course. The findings show that attendees on the dignity course tended to be more aware of the psychosocial influences of mealtime experience and those on the nutrition course tended to be more aware of the technical influences. These are discussed in greater detail in section 6.3.2.3.

6.3 Psychosocial Influences

The findings from the present study identified psychosocial influences to be one of the two overarching themes that affect the mealtime experience for older people living in residential care. Person-centred aspects of offering food choice focuses on how food preferences are accounted for by staff and ensuring they offer a suitable range of food and drink in a timely manner (section 6.3.1). The influences of relationships with others are critiqued, both in terms of the interaction of residents and visitors, as well as the role of staff ensuring a positive person-centred mealtime experience (section 6.3.2). Lastly, socialisation and the dining environment with respect to the dining setting, residents' personal choice of where to eat and the impact of interruptions are discussed in section 6.3.3.

6.3.1 Person-centred aspects of offering food choice

The present study has shown decision-making about food choice was important to the residents who were interviewed, and the concept of food choice was appreciated by staff. This demonstrates that offering food choice is well recognised within the participating care homes. These findings agree with Evans and Crogan (2005) study in the USA. They found 79% of the 61 older residents, completing their validated FoodEx – LTC questionnaire, wanted to be able to choose what to eat. Hoffman et al (2008) reported on four case studies that linked food choice with improved quality of life in residential care homes in Germany. He highlighted that individual residents have different expectations of food choice based on their individual life histories. Interestingly, the present study has highlighted a number of different factors influencing food choice and how these are determined in order to satisfy resident preferences and these are discussed further in sections 6.3.1.1. Food choice can subsequently lead to an opportunity to exert independence and increase personal wellbeing (Murphy 2007). Gastmans (1998) identified the concept of self-worth, linking it to autonomous decision-making for those receiving mealtimes in care. Exerting autonomy and independence over food choice, within the confines of the defined care home structures of regular mealtimes and predetermined menus, could manifest itself in different ways. Staff in the present study did not always recognise these and lack of recognition of such cues by staff and consequent response could act as barriers to the mealtime being a positive experience. However, it was not just food choice availability that is important, but expectation by the recipient of the food and drink presented. If food is not prepared as expected it too can lead to a negative mealtime experience. Food choice is complex and is affected by different personal factors (Falk et al. 1996; Abbey et al. 2015). These are explored in the context of the mealtime experience in section 6.3.1.2. The way residents in the present study perceived their available food choices on a daily basis was influenced by the foods that were available; when and how choices were made; their own perceived independence and expectations; as well as their relationship with staff. The variation in resident and staff attitudes to food choice highlights the importance of person-centred care. Yet, despite the established theories of Gastmans (1998) and Kitwood (1997), it would appear from the present study that not all care staff are delivering care that optimises the mealtime experience with food choice for all. The barriers to doing this are discussed in section 6.3.1.3.

6.3.1.1 Accounting for group food preferences

The findings of the present study have shown that involvement of residents in menu development has the potential to help them to be active in their care and retain a level of autonomy even with increased frailty. The majority of staff reported that they regularly discuss food preferences with residents, but this is not supported by observations in previous studies in Australia (Bennett et al. 2015) and Norway (Grondaal and Aagaard 2015), where residential care home systems are similar to the UK. Food preferences were reported in the present study to be determined from residents either directly as individuals or within groups. Residents valued the opportunity to influence menu plans knowing their opinions mattered and contributed to the organisation of the care home. These residents reported during interviews, the freedom of voicing ideas enabled them to give constructive opinion on the food and drink available. Interestingly, Hoffman (2008) links improved quality of life with giving older residents increased responsibilities. Evans and Crogan (2005) found 65% of residents reported that they did not complain about the food to enhance their perceived satisfaction with meals and yet, their study showed those more likely to complain had greater meal satisfaction. Winterburn (2009) identified from interviews in her study of four care homes in Northern England that residents who have greater autonomy and active participation in mealtimes reported improved enjoyment of food. However, not all residents were given the opportunity to communicate with the catering team and care staff about their food preferences. The passivity and lack of interest of one interviewee demonstrated how she lacked involvement in her care and the care home community in general. This behaviour was highlighted by Dunn and Moore (2015), who identified passivity of residents' can increase further institutionalisation and disempowerment. This can be explained additionally by Jakobsen and Sørli (2010), who proposed the ethical dilemma faced daily by carers, who have to balance heavy dependence of residents with encouraging autonomy and competence. In terms of supporting the mealtime experience, the current study confirms that recognition of individual resident preferences is important, but additionally every opportunity should be given to enhance their involvement in meal planning to enrich the mealtime experience.

Determining food preferences requires thought and understanding of the implications for individuals. Group discussions comprising of staff and residents worked favourably in one small care home. There was reported familiarity between all staff, including kitchen staff and residents, largely because of low staff turnover. However, it was reported that key contributors to the group discussions were

outspoken and the more vocal of residents could dominate with their opinions. Other researchers have identified similar situations where residents wanted to overrule specific individual food preferences and care home staff were unable to accommodate all individual needs, particularly where the population has diverse cultural or dietary requirements (Kofod and Birkemose 2004; Chisholm et al. 2011; Merrell et al. 2011; Crogan et al. 2015). Consequently, residents can experience disappointment when their ideas do not appear on the menu (Chisholm et al. 2011). Although the residents in the present study expressed frustration of how the more vocal residents expressed their personal opinions, the levels of disappointment at not seeing items appearing on menus were not articulated. It could be hypothesised the lack of diverse cultural differences within the participating care homes may have been an indicator of food preferences being comparable for residents.

However, a better option to find out individual food preferences and enable everyone to feel listened to was identified from the findings of the present study. This involved food-service staff, and in particular the chef, talking to residents about the food and drink offering. The residents appreciated the opportunity to voice opinions individually to kitchen staff and chefs who were present at mealtimes, after meals or visiting residents in their rooms for feedback about meals and menus. This approach helped to develop staff-resident relationships improving residents' self-worth by contributing to a tangible menu plan and building a sense of community. The present study has shown that being able to co-create menus and be involved with meal planning was a valuable opportunity for residents to demonstrate autonomy and further individual wellbeing. Kitchen staff and in particular chefs have an indispensable role to facilitate this, as part of the mealtime experience. Ducak & Keller (2011) realised the importance of involving residents in the process of menu development, but proposed only annual discussions with the whole care team. A study in Australia, by Chisholm et al. (2011), identified the most common cause of menu changes in care homes to be either supply problems or the chef autonomously making changes with no involvement of residents identified. Indeed, Bamford et al. (2012) showed that introducing menus that had been developed by third-party dietitians was an over-riding failure, due to them not taking into account the diverse food preference within the care home and lack of commitment from chefs in preparing the food. The findings of the present study, therefore suggest ongoing co-creation of menus with residents. To do this, care staff and catering teams should regularly communicate with individual residents

about food and drink, an important finding that has not been shown previously and it would appear this is the first time this has been reported.

A whole systems approach is required with the entire care team; management, kitchen staff and carers using a variety of communication methods that are appropriate for the care home community. Another important finding from the present study is it would appear that the role of the catering team was underestimated by many of the care home management teams. The more the teams were fragmented, especially in larger organisations, the less responsive the mealtime experience was to individuals differing food requirements. Challenges included organisational structure and internal barriers created by lack of management support were identified by staff. Yet, a whole team approach to improve personal care is encouraged by Gheradi and Rodeschini (2015), who argue the case for 'knowing in practice' whereby all health and social care staff from health staff in medical practices and hospitals to family and care staff are involved in the care of an individual. Their theory demonstrates that everyone has a responsibility to embed ethical care into their routines and tasks and it requires everyone to work together. Roller et al. (2016a) confirm that staff management systems need to be appropriate with good communication channels between teams, as well as adequate staffing levels. However, the lack of involvement of kitchen staff in the holistic care of residents and their subsequent contribution to the mealtime experience has not been shown previously and would appear to be the first time that this has been reported.

6.3.1.2 Knowing the person

The present research has shown that it can be difficult to understand food preferences of new residents and in these cases their family's knowledge can provide important insight and background information. Additionally, some residents were identified to be indecisive about all aspects of their lives and particularly their ability to make food choices and influence their own mealtime experience. Loss of confidence in decision-making due to reduced autonomy and independence were reported, as residents described how they had struggled to manage on their own, finally making the decision to move in to care because of a critical incident, not being able to manage at home any longer or had that decision made for them by family or social support systems. This is confirmed by Angelini and Lararrere (2011), who established that in some cases the decision to live in a care home is forced upon individuals. The findings of the present study identified that care home

staff behaviour should aim to rehabilitate residents over the first few months to encourage decision-making about meals, drinks and other aspects of personal care with the ultimate purpose of developing independence for their residents. This can be regarded as a fundamental right of dignified care and central to retaining a sense of autonomy (Boelsma et al. 2014). The positive examples from the present study demonstrate good practice in delivering a good mealtime experience, yet from the literature, it would appear that care home living can often mean that residents lose individuality and gain a sense of powerlessness for which they have no control (Mojša and Chlabicz 2015).

The present study showed additional information about how individuals' food preferences became available, through staff observations and further discussion with residents about positive experiences of trying new foods. Conversely, the impact of institutional living, long standing familiarity and favourite foods being prepared in different ways negatively influenced food preferences as the food did not meet expectations. It is well established in the literature that food preferences are affected by the life course of individuals and can include ethical principles, personal factors, socio- economic background as well as the physical environment and cultural context within which the food is served (Koehler and Leonhaeuser 2008). Other factors such as deteriorating health, medication changes or seasons changing (Falk et al. 1996; Kenkman et al. 2010) can influence food preferences. The present study showed food preferences continue to change and adapt once living in the residential care setting, with both positive and negative experiences of the food and drink offering. Taken together, the findings demonstrate that it is necessary to update care plans to ensure all staff are informed of current individual resident food preferences. Andrew and Ritchie (2017) identified the importance of appreciating an individual's identity at mealtimes, yet it would appear from the present study that information is not kept up-to-date in care homes leading to failings in knowledge of all staff, across different departments, of the food preferences of residents. This is particularly important for new or temporary staff who do not have the knowledge of individuals preferences. There was an appreciation by both staff and residents that those carers who had been in post for a length of time had a good understanding of their residents' food and drink preferences. This observation supports the findings of Merrell et al. (2011), who found established long-term carers were confident that they could predict food choices and residents wishes which added to the sense of security felt by the resident. Bennett et al. (2015) undertook a study in Australia, where care plans are

also used to document resident preferences. They established how lack of staff knowledge is linked to care plans being poorly documented at the outset of a resident's stay, but did not highlight the need for care plans to be continually updated. Taken together, the findings demonstrate that continual updating of care plans is necessary to ensure changing food preferences are shared with all staff.

6.3.1.3 Availability of Food choice

There was a range of food choice observed in the present study, which is in accordance with previous findings (Watkins et al. 2017a). However, the interpretation of food choice differed amongst care homes. Staff reported menus accounted for different dietary requirements, yet one-third of care homes only offered one choice for those on special diets, whereas those with no dietary related conditions had at least two choices. For dietary management of residents with type 2 diabetes there were no or few appropriate alternatives. The resident interviews identified this adversely impacted on the mealtime experience and subsequently their wellbeing. It was clear from these interviews; the staff including the food-service teams had insufficient knowledge of food options for those with this condition. Although the challenges of meeting the needs of everyone with specific dietary needs are highlighted by Ducak and Keller (2011), they do not suggest how it can be achieved and how staff knowledge can influence the delivery of these foods. Discussed elsewhere is how staff rely on health professionals for advice on nutrition, and yet, resources are limited (Section 6.4.5). In an Irish study, where health systems are similar to the UK, Hurley et al. (2017) showed that only one-third of care home staff had received any formal diabetes training. In New Zealand, Chisholm et al. (2011) identified less than five percent of chefs and food-service staff had had diabetes training with even fewer of the same staff receiving training on how to manage undernutrition and texture modification. Specific training for care staff with practical advice on how to manage diabetes care in residential care homes indicated improved knowledge and care practice in the UK by Deakin and Littley (2001). Their small study conducted in one care home in Lancashire involved only 12 members of staff, but did show a significant increase in pre and post knowledge scores after completing 2 hours of diabetes training. Encouragingly, a year later, the staff were shown to retain most of this knowledge and continued to demonstrate the changes to practice that had been implemented as a result of the training. However, there was no evidence from the present study to suggest that

staff had received training to manage diabetes, and how they could develop menu plans to increase food availability and choice for residents living with this condition.

The findings from the present study suggest choices made some time before the meal can change. Therefore, the closer the decision is made to when older people choose their food, the more likely it will suit their immediate needs and preferences. Factors such as indecisiveness, mood and stress levels, weather, time of the day, hunger and appetite can influence immediate food choice (Oliver and Wardle 1999). Although strong opinions were not evident from residents as to when food should be chosen in the present study, Wright et al. (2013) evaluated food service through a Likert scale based questionnaire with 313 patients and residents in 11 care and geriatric facilities in Brisbane, Australia. They found, through regression analysis of the quantitative data, there was a strong correlation between choice of meals at the point of service and very good overall meal satisfaction. Further modelling identified that choice on the day of the meal is consumed gave a high marginal probability of very good food service whereas choosing the day before gave lower probability of food service satisfaction. The findings from the present study, together with those from the literature could therefore hypothesise that the time between making meal choices and consuming them should be short to optimise the meal time experience. Meal choices made as near to the point of consumption were preferable for residents. This enabler to the mealtime experience has not been identified before and it would appear to be the first time this has been reported.

6.3.2 Relationships with others

Social interaction is widely reported in the literature (Salva et al. 2009; Bennett et al. 2015) to be an important part of the mealtime experience, but the present study has shown it can be both a positive and negative experience. Staff, residents and visitors can all contribute to the lived experience and enjoyment of food and drink, but barriers were identified that could prevent achieving this successfully. Research has shown how food is more likely to be enjoyed if eaten as a social occasion (Koehler and Leonhaeuser 2008; Boelsma et al. 2014). Yet in care homes, social activity has been shown to be scheduled occasions (Hubbard et al. 2003). Challenges existed for residents to develop friendship groups and these are critiqued in more detail in section 6.3.2.1 with the available literature. Staff behaviour is not always conducive to support mealtimes, but there was additional evidence that training has the potential to influence the support provided, with different pedagogies having different outcomes. Crogan et al. (2004), in their

qualitative study based on phenomenology, interviewed a few residents in a single care home in America and found staff varied in attitude and ability to listen to food preferences in a dignified manner, but they did not investigate their social interaction with residents. The findings of the present study show how complexity of 'forced' socialisation influences the mealtime experience and is discussed in relation to the impact of visitors and staff in sections 6.3.2.2 and 6.3.2.3. Staff and residents themselves have varying attitudes to life within the residential setting. How these personal attitudes affect the social nature of the mealtime experience is presented together with the relevant literature in section 6.3.2.4 and 6.3.2.5.

6.3.2.1 Relationships with other residents

The present study has identified that having different areas within the care home to eat and drink enabled different alliances and personalities to eat alone or together depending on mood, social ability and friendship groups. Residents were observed to form different social groups and from interviews it was apparent they were acutely aware of whom they did not want to sit with. The benefits of socialising at mealtimes were discussed in the original literature review in chapter 3 of this thesis. Salva et al. (2009) identified in their literature review, that dining rooms that have an element of family style dining and homelike environment can be effective in reducing undernutrition. Nijs et al (2006) in their study involving five care homes and 282 residents in the Netherlands introduced an intervention to emulate family style dining by encouraging residents to sit at tables and serving from bulk dishes at tables. The 6 month intervention identified quality of life scores and BMI remained stable whereas the control group scores decreased for both variables. Hung and Chaudbury (2011) identified themes from their qualitative ethnographic study in two care homes in Canada that high quality staff – resident interaction in the dining room can positively impact on resident food satisfaction. Despite the evidence that socialising contributes to enjoyment of mealtimes, the present study has identified that to encourage socialisation, residents need to have the security of knowing their wishes of where they want to sit and who this is with will be respected.

The present research also identified additional challenges for residents to be sociable. Different personalities and cognitive abilities were seen to negatively or positively impact on mealtimes, as different friendship groups were formed. Some characters socialised better than others. Residents reported through the interviews, that specific residents, especially those with cognitive incapacity, could negatively impact on the enjoyment of the interviewees meals. Starting conversations for

those with varying levels of cognitive capacity and sensory impairment was a struggle. The difficulties of making conversation for residents living in residential care with varying levels of cognitive decline was highlighted by Thomas et al. (2013). They undertook qualitative interviews that identified the challenge of communicating with people living with dementia. However, these Australian residents did not express strong views on it being challenging and interfering with mealtime enjoyment. The strong opinions and the negative impact of 'difficult characters', in particular those living with cognitive decline and the adverse consequences on the mealtime experience has not been identified before and is an important finding of the present study.

6.3.2.2 Relationships of residents with visitors

The present study showed from interviews that staff members encouraged guests to visit residents, but only staff in one care home reported they actively encourage visitors to eat with residents. Residents reported a lack of visitors at mealtimes. It has previously been shown that family and friends can provide contact with the outside world and be an anchor point for celebrations, as well as encouraging socialisation and independence (Thomas et al. 2013). Indeed, Vesnaver and Keller (2011) from their literature review go so far as to show social interaction, enjoyment of food and food and drink intake are directly linked. Although De Castro et al (1994) showed that the effect was larger when eating with family and friends rather than companions. This led them to hypothesise relaxation at mealtimes was important when eating. Strategies to encourage socialisation have successfully been introduced in other countries. Examples from New Zealand and Canada respectively, include both formal and informal food and drink areas, where residents could offer visitors food and drink (Andrew and Ritchie 2017; Hung et al. 2016). The mixed method study by Hung et al (2016) identified themes that linked improvements to resident autonomy when they had access to informal kitchens. This was confirmed by Andrew and Ritchie (2017). They undertook a qualitative study and identified further themes that included being able to offer friends and family a drink contributes to individual residents maintaining a level of individual identity. However, this level of socialisation was not evident from observations in any of the care homes in the present study. It is unclear why this is. Van Hoof et al. (2016) argue that health and safety barriers might prevent a café style approach in care homes and yet, Andrew and Ritchie (2017) maintain that the added benefit of independence for residents should encourage a culture change within organisations that allows them to embrace the freedom cafes offer. Alternative approaches to

socialisation are reported by Norman (2018) to have been introduced in care homes in the Netherlands and France. These are known as intergenerational schemes, rooms are allocated to young students and free board and lodging are provided in return for some of their time to socialise and support residents in a variety of ways including conversation at mealtimes. However there appears to be no evidence in the literature how these schemes impact on the mealtime experience.

Support to eat at mealtimes in care homes in the present study remained the task of the staff carer, possibly because, as suggested by Bauer (2005), the balance of power remains with the care staff and this might add to feelings of awkwardness for visitors. There were however, opportunities to encourage family or friends, particularly those who were previously the primary carer, to visit and assist at mealtimes. This is supported by findings from Durkin et al. (2014), who showed from observations at mealtimes that visitors in privately run care homes in Florida spent more time at mealtimes supporting the residents to eat and drink than the formal carers employed by the long term care facilities. These care homes were of similar scale to those participating in the present study, although varied in their operating company which included both commercial privately run care homes as well as charitable not-for-profit organisations. No differentiation was made in the results between those operated by charities and those operated for profit so it was impossible to understand whether attitudes of staff and residents varied with the different cultures of the organisations. Previous research by Gastmans (1998) showed being able to entertain visitors contributed to retaining autonomy and he recommended active involvement of visitors to make meaningful contributions to mealtimes. Young et al. (2016) undertook a study in hospitals in Brisbane, Australia to show assisting hospital patients at mealtimes increased food intake in over 75% of participants. They concluded timely assistance is fundamental to increased food intake, but there was no mention of the overall mealtime experience. Staff structures vary between care homes and hospitals but analogies can be drawn from studies on protected mealtimes that show support to eat and drink remains important for frail adults. Walton et al. (2013) undertook a qualitative study of observations and interviews and through thematic analysis identified negative contributors to mealtimes in hospitals included medication rounds and health professional visits. Ullrich et al (2011) reported from their mixed methods study, one barrier to delivering protected mealtimes was communication between different teams and when health care staff took their breaks. Although Porter et al (2017) undertook a systematic literature review and determined there was limited success

of protected mealtimes in increasing food and drink intake. They cited challenges such as the variation between implementation strategies of health trusts and dependency on mealtime assistance of patients. Indeed, Palmer and Huxtable (2015) showed that mean energy intake of older patients was positively associated with mealtime assistance being documented. Staff shortages are well documented in the literature and staff time pressures due to a multitude of residents' personal care commitments can prevent mealtime assistance (Murphy 2007; Kenkman et al. 2010). This is confirmed from a study by Simmons and Schnelle (2006), who showed the extended time required to assist feeding of residents. At the same time, Keefe and Fancey (2000) found that visiting families reported reduced involvement with residents as they lack purpose and things to do on visits. It could therefore be hypothesised from the literature and the findings of the present study that engaging visitors in meaningful activity to provide mealtime assistance might give them purpose to visits with the consequent benefits of socialisation and links to the outside world.

6.3.2.3 Staff support of residents

Staff-resident interaction was shown to be an important influential determinant in their relationship, from the findings of the present study. Depending on how staff communicated with residents impacted on the overall mealtime experience. When the dining room was regarded to be a safe, sociable and pleasant place to be, there was a positive influence on the mealtime experience with the dining room more populated. On these occasions, staff spoke directly to residents and chatted generally about mutual interests and social activities. However, in other care homes, staff were observed to be impassive and inconsiderate which accords with the findings of Boelsma et al. (2014). Despite their study focusing on larger care homes in the Netherlands, they too realised mealtimes provided an opportunity to develop relationships between carers and residents but often the staff were impersonal and uncourteous. The present study develops the concept of how staff-resident relationships can influence the mealtime experience by showing they can further impact on the ambience and popularity of the dining room, directly affecting the mealtime experience.

Staff who worked in the care homes of the present study were observed to be less sociable when they were focused on the task of serving food and drink at mealtimes. When they did this, the dining room was observed to be formal and less animated. Only a proportion of staff were able to simultaneously offer empathy and

rapport through a variety of communication approaches, and serve meals. Creating a harmonious atmosphere for the mealtime experience was observed to be a challenge for many carers, particularly in recognising and balancing the needs of those who directly seek attention, with those who were quiet and subservient. The variation in staff ability to support residents living with dementia was shown by Hung and Chaudbury (2011). They identified staff do not necessarily understand what is required for them to support residents wellbeing by delivering an inclusive person-centred approach, due to lack of training and knowledge. Dementia can bring a unique set of challenges in the delivery of food and drink (Murphy et al. 2017), but it would appear from the present study that even without the difficulties caused by dementia, staff struggle to cope with person-centred care at mealtimes. Differing staff competences were shown by Pelletier (2005) who classified carers as social or technical feeders, although they did not see the necessity to blend the two. The wide variation in levels of support of residents to eat and drink observed from the findings of the present study could suggest the concept of dignity to promote independence at mealtimes is not completely understood by some staff. Whether this is due to a lack of training or inflexible staff attitude is less well understood. Rodriguez (2011) suggests that all staff strive to construct a meaning of dignity in their work, but sometimes struggle to relate what is needed to the concept of their work. The emotions of caring for someone have to be balanced with the structural organisation of the care home which means staff often default to a task-focused approach when workload increases (Lopez 2006). The recognition that only the most successful staff are able to blend social skills and tasks to facilitate mealtimes has not been shown previously and it would appear this has been the first time this is reported.

Dependence of residents on support to eat and drink was observed to vary considerably in the care homes of the present study. Recognising when residents needed assistance at mealtimes was further complicated when some residents were reported to not ask for help. Varying strategies were observed to deliver dignified, supportive assistance including utilising all staff on duty at mealtimes and the quantitative findings indicated that staff thought they were able to provide sufficient personal care to those who needed it at mealtimes. However, the qualitative findings of the present study did not corroborate these opinions. It was observed some staff became distracted on other activities and conversed directly with other staff with no continuum of help existing to aid residents to eat independently. This discrepancy of reported versus observed actions could be

explained through the research findings of Philpin et al. (2014) and Pearson et al. (2003). They suggest there is a lack of understanding by carers of what is required to support residents due to lack of training, and basing their actions on their own family experiences. The humanisation framework proposed by Todres et al. (2009) was shown by Borbasi et al. (2012) to help carers to understand these dimensions and encourage resident wellbeing, independence and autonomy in all aspects of care. They identified that care delivery should be inclusive by ensuring the needs of the individual are met. Yet, it would appear from the present study, this is not always happening at mealtimes. The volume of work to do in the care setting is well documented (Simmons et al. 2001; Murphy 2007; Dunn and Moore 2014). This can lead to a task-driven culture where staff are unable to fully understand the psychosocial influences of mealtimes, despite the focus for the social care sector staff to provide person-centred care. There is a risk that carers will care for the 'human body' in a task-focused environment rather than caring for the 'human being' (Sydner and Fjellstrom 2005; Dunn and Moore 2014). Staff should be encouraged to work with residents to promote independence and encourage involvement with all tasks including eating (Du Toit and Surr 2011). An intervention of communication training for nurses was implemented in a long-term nursing facility in Canada by McGilton et al. (2005). Although only one long-term residential setting in Canada was involved in this study and it had younger residents who required full nursing care, the intervention was shown to develop effective communication skills and supportive care. Staff and patients subsequently rated their relationships with each other and statistically significant results showed that nurses were more confident in building relationships with their adult patients. This demonstrates there has been success elsewhere to improve nursing staff technical skills and encouraging them to blend these with social skills. Interestingly, Vanlaere et al. (2010) highlight that if the attitude of empathy is not adopted by staff it is often because it has not been taught with staff turning to a task only approach to delivering care.

Taken together, these findings demonstrate that carers require support to be able to blend task-focused mealtime activities with person-centred enablement. Delivering person-centred support has been shown to be complex in the present study. Training tailored to understand the direct impact a humanised approach has on mealtimes would assist carers to better deliver that support and improve the mealtime experience. An important finding of the present research is that the experiential from the dignity training encouraged staff to reflect and improve

understanding of dignified care at mealtimes, whereas the in-class nutrition training tended to focus staff attention to the technical influences of mealtimes. For both sets of training staff reported that they were encouraged and enabled to implement changes to the mealtime experience in different ways. What was learnt and later implemented in practice was influenced by the pedagogical styles, with their differences in aims, learning styles and information delivered of the education programmes. Additionally, the staff related their learning in different ways to practice at mealtimes, which had varying outcomes and benefits for residents.

Chang et al. (2015) trained nurses how to use a 'Focus on Feeding Decision Model' across five care homes in Australia. Nurses reported that the model was too complex to use in the practical care setting demonstrating that systems should not be too complicated for practice. Faxen-Irving et al. (2005) showed that a 12 hour theoretical training programme for care assistants focusing on similar things to the one day nutrition class in the present study, did not impact on BMI, nutritional status and cognitive function of residents, but again staff knowledge improved. This questions whether the education style of the programmes evaluated by these researchers encouraged sufficient autonomy of staff to make practice changes to benefit the residents' mealtime experience. Other researchers have focused on how theoretical training can reduce risk of undernutrition through correct use of ONS (Abbot et al. 2009; Brotherton 2012b; Liu et al. 2014), encourage food fortification (Westergren et al. 2009), screen for undernutrition (Gaskill 2009; Torma et al. 2015) and assist feeding (Chang and Lin 2005) but none looked at the holistic mealtime experience. Education and training were shown to be important to raise the profile of aspects of food and drink delivery for carers in Australia by Bernoth et al. (2014). Food safety dominated the interviews discussion conducted by these researchers and the family participants felt that carers were more concerned with this aspect of meal delivery than the psychosocial contributors such as the dining room experience and overall quality of the food. A recent systematic review by Marples et al (2017) realised that there is a lack of high-quality evidence to suggest that nutrition training for health care staff has positive effects on both staff nutrition knowledge as well as patient nutritional intakes.

Although the present study has demonstrated how in-class training can improve aspects of mealtime experience, further creative pedagogical approaches improve the mealtime experience. Importantly, the experiential training that immersed staff members in all aspects of care using reflective learning techniques led carers to understand the resident experience of the psychosocial determinants of mealtime

recognised in the present study. This was despite the focus of the training to be on holistic dignity and person-centred care. Vanlaere et al. (2010), who developed the experiential training programme in Flanders, theorised that the reflective sessions encouraged deeper contemplation and focused staff to consider improving their own practice. Their research focused on nursing improvements, but it would appear from the present study that this type of experiential learning can positively impact on the mealtime experience as well as nursing care. Interestingly, the experience of mealtimes by those undertaking the experiential training was not always a good one, but appeared to reinforce what good mealtime experience might look like in the eyes of the participant. Interestingly, the present study has shown this understanding by staff concords with that of residents of what a good experience should look like. Franklin et al. (2006) conducted twelve resident interviews using a hermeneutic approach in two Swedish care homes to understand dignity for those experiencing end of life. Their qualitative research showed that it is easier for the concept of dignity to be understood when respect and autonomy have been personally jeopardised. Constructive learning theory and the Kolb Reflective learning model (Kolb 1984) were used effectively by Suominen et al. (2007), who blended lecture based teaching, group work and additional theoretical study about undernutrition to educate staff members in five nursing homes in Finland. They found this use of constructive learning led to 21% increased mean energy intake in residents with dementia. Snoeren et al. (2016) found practice based mentored learning on an innovative care unit in the Netherlands was reported in focus groups with nurses, to improve their knowledge of holistic nursing care as well as greater knowledge of their own learning strategies, and the benefits of reflective learning and sharing with others. Ullrich et al. (2011) undertook a participatory action research approach to break down fixed role boundaries with Australian staff and empower individuals to understand their roles in delivering good nutritional care. One theme highlighted from the interviews was staff felt they could deliver a more person-centred approach at mealtimes following the intervention. Chisholm et al. (2011) highlighted the challenges in getting all staff to undertake training as well as, the availability of suitable nutrition training in the quantitative study of 50 care homes in New Zealand. However, they identified education is fundamental to change behaviour. These reported benefits combined with the findings of the present study of how experiential and reflective learning of staff has the potential to directly benefit the mealtime experience for residents are an important finding of the present study and it would appear to be the first time that this has been reported.

Both face-to-face and experiential training were recognised by staff to be advantageous over e-learning in underpinning knowledge. This is contrary to findings in the evidence base. Rahmen et al. (2011) introduced a long-distance coaching course for 26 staff members with the aim of improving nutritional care in residential care homes. The content included teleconference lectures and led to staff being able to give more support to undernourished residents at mealtimes, with 30% increase in scores from pre and post-test of a multiple choice nutritional knowledge quiz. MacDonald et al. (2006) successfully introduced an online learning tool to improve care for those living with dementia in long-term care facilities in Canada. Despite the reported improvements in care, they concluded multiple developments to the programme needed to be made to meet the challenges of team discussions and reflection, IT barriers and time needed to complete the training demonstrating e-learning is not always successful. By considering these findings as well as those of the present study it can be concluded that education tools should be chosen carefully to train staff to influence the mealtime experience.

In addition to ensuring care homes have knowledgeable, well trained staff, adequate staffing levels are needed to support residents. The impact of staff shortages were reported in the present study. Staff spoke of how delivering food and drink to residents increased workload; if insufficient staff were available then this impacted on how they could do their job and exacerbated difficulties in prioritising aspects of the mealtime experience. This is further worsened when staff were required to manage unexpected emergencies, further reducing the number available to support residents at mealtimes. This is not the first time staffing levels have been shown to influence care. Just as in the present study when residents felt rushed to finish meals, Kayser-Jones and Schell (1997) showed 20 years ago that staff shortages can lead to mealtimes that are systematic and unfeeling with staff taking shortcuts to deliver the food, confirming little has been done to improve staff shortages in the meantime. Just as in the present study, mealtimes were shown to be shortened in an effort to finish the job quickly. Other researchers have identified staff shortages and task-focused routines to hinder person-centred care (Lopez et al. 2006; Murphy 2007; Reimer and Keller 2009; Watkins et al. 2017b; Lowndes et al. 2018,). Mealtimes were recognised by Lopez (2006) to be one of the busiest times of the day in residential care homes. Staffing levels will continue to challenge care home management. It is recognised the work is challenging both physically and emotionally (Rodriguez 2011) and carers receive little more than the minimum wage (Laing 2014). Recruiting and retaining staff was not only reported to be a problem

in the present study, but is confirmed by national data (Skills for Care 2016). It is outside of the scope of this thesis to discuss how staff levels can be improved, but it is important to emphasise from the findings of the present study how the mealtime experience is affected by poor staffing levels. Solutions identified from the data might be useful to help manage this, such as ensuring all staff are on duty at mealtimes and breaks are allocated at less busy times of the day.

Efforts by staff were shown to be important in the present study to build confidence for residents to integrate in the dining room. It has been identified by Thomas et al. (2013) that dining rooms can be scary places, especially if new to the institution or friendship groups have been forced to change. It would appear from this study, not all staff were aware of this and consequently this could act as a barrier to eating and drinking. The present research has identified a lack of involvement by residents in food and drink based activity with only isolated pockets of entertainment and activity being undertaken. Only two homes encouraged independent living, proudly reporting residents actively participated to help set the tables, although food preparation remained the domain of the staff. Generally staff had an embedded attitude that residents needed to be cared for and staff in all but the smallest of care homes in the present study did not encourage residents to get involved with functional activities of the care home. The role of food based activities to encourage socialisation was highlighted for free-living older individuals by Falk et al. (1996) using their social framework model. In their study, the older individual's primary motivation to attend food based gatherings was for socialisation and companionship. The meal offering was less important as some chose not to eat poor food. For free-living older adults, this can be compensated for with other meals, but this option is not available for those living in residential care, hence why the mealtime experience becomes even more important. Winterburn (2009) and Hoffman et al. (2000) also identified the benefits of being involved with food and drink before and after the mealtime as it promotes hunger, stimulates gastric enzymes and fluids as well as interest. Further reasons for lack of involvement with food based activities are complex and examples given in the literature include frailty, poor physical health and cognitive problems (Mahadevan et al. 2013). Health and safety legislative barriers were proposed by Van Hoof et al. (2016) in Holland and Fleming et al. (2017) in the UK. They discovered staff found it easier to do tasks without interference. These factors undoubtedly mean barriers exist for residents to be involved in the preparation of the mealtimes, but activity of daily living around food and drink preparation has the potential to enhance resident wellbeing and

prevent the transient feeling of 'living in a hotel' as identified by Boelsma et al. (2014). Generic, meaningful activity was shown to be related to improved quality of life for those living in residential care homes in themes developed from a systematic literature review by Bradshaw et al. (2012). Taking these findings from the literature, as well as those of the present study it is possible to hypothesise that opportunities are being missed to encourage residents to be fully involved with mealtime activity.

6.3.3 Personal attitudes

6.3.3.1 Staff

It was observed from the findings of the present study that giving priority to residents eating in the dining room increased its popularity and ensured everyone in the dining room ate together. A cyclical process appeared to occur whereby the more people who ate alone in their rooms, the more residents were motivated to not eat in the dining room. Keller et al. (2013) identified staff should be sympathetic to those who wanted to eat alone and respect autonomous decision-making and dignity of an individual. It has also been established that residents understand the social importance of mealtimes from themes from the literature review by Koehler and Leonhaeuser (2008) and interviews conducted with residents by Boelsma et al. (2014). Interestingly, the effect of crowds on eating patterns in restaurants was studied by Edwards and Gustafsson (2008). Their work showed the balance of enjoyment of food with other people present whereby individuals can help to contribute to the atmosphere of a dining room and although an over-crowded room can have a negative impact on food consumption, so too can an under-crowded room. Edwards and Gustafsson (2008) showed in society, a quiet restaurant is often perceived as having poor food quality. Drawing on their findings and linking these to the present study, the apparent unpopularity of some dining rooms could have been partly led by their lack of use and contributing to a negative mealtime experience. The responsibility of staff to deliver person-centred support was discussed in section 6.3.2.3, but an important finding of the present study, is that it has further ramifications in the socialisation of the mealtime experience.

A key motivator for attitudes was reported by staff in the present study to be driven by the Care Quality Commission audits, which are defined by national guidelines (CQC 2017b). Care home managers in particular described the need to make changes to the mealtime experience because of recent audits or pressures from the

auditors. Examples included worrying about portion sizes, matching individual food preferences against 'unhealthy' choices of individuals and the perceived expectations of the auditor on healthy eating. However, residents' mealtime priorities were discussed in sections 6.3.1.1 and 6.3.1.2 to differ from measured standards as they wish to be allowed autonomous and independent freedom of food choice and preference. Similar findings have been found in Canada in a qualitative study by Ducak and Keller (2011) who showed the challenges of meeting the set guidelines of the Canadian Ministry Food Guide on meal planning. This food guide is not specifically designed for older adults living in long-term care, nevertheless Ducak and Keller (2011) highlighted government policy expected care providers should follow it. Audits from the Care Quality Commission are meant to raise standards and auditors were reported in the present study to focus on specific aspects within their Fundamental Standards (CQC 2014a, CQC 2017b)). The findings of the present study have established that auditors directly influence mealtimes and yet, an holistic approach to the mealtime experience that incorporates all the psychosocial influences to promote overall resident wellbeing, independence and quality of life is required. This has not been identified previously and it would appear to be the first time this has been reported.

6.3.3.2 Residents outlook

The findings from the present research found that the supportive structure and environment discussed in section 6.3.2.3 helped to contribute to a sense of security for residents. Residents varied in their appreciation of the assistance and personal care provided by carers and in particular, the provision of food and drink. Many of the residents in the present study recognised their limitations and dependency, due to critical health incidents. They understood the difficulties of continuing to live alone at home and had often experienced long-term stays in hospital. These influences and that of families and friends had meant they were reconciled with living in long-term residential care and reported feeling safe and secure without the responsibilities of independent living. This feeling of safety concurs with the qualitative findings of Hjaltadottir and Gustafsdottir (2007). They identified themes that showed it was important for residents to feel safe, in order for positive attitudes to prevail for the eight participants in the two Icelandic care homes in their study. The positive attitudes that existed among some residents in the present study about the food and drink on offer coincided with an understanding that living in an institution would limit food choice. There was recognition by many residents

interviewed that institutional life is different to independent living. Residents who had settled well into the residential community appreciated having a selection of foods available, the reduced responsibility of daily living and preparing meals.

Contrary to this, the present study also identified how some residents missed their independent lives and consequent reduced autonomy due to the dependency that forced them into residential care. Staff support, as suggested in section 6.3.2.3, could do something to help them regain a sense of independence and autonomy, but it was these residents who found the limited food choice available more challenging. For some however, the negative feelings towards the mealtime experience epitomised the challenges and reduced quality of life they were facing with their new lives in residential care. Previous studies, from countries with similar social care structures to the UK have identified diverse opinions on how residents adapt to life in a care home, but none relate this to the mealtime experience. Edwards et al. (2003) identified from interviews in several care homes owned by the same provider in Brisbane, Australia, that residents felt they adjusted well to general life in the care home. Previous research by Bradshaw et al. (2012) recognised that acceptance of and adapting to life in a care home required an optimistic approach and a strong sense of self-awareness and Franklin et al. (2006) identified a requirement for inner strength. Kofod and Birkemose (2004) identified the rules of general living change when older adults move into a care home in their Danish study, but they did not establish the differences to autonomy and dependency of different residents and the consequent impact on mealtimes. Murphy (2007) undertook a qualitative study in Ireland to establish the determinants of quality care. She described an inner strength as one of the factors elicited from her mixed methods study that residents require when starting to live in a residential setting and how not all people have this. Her study investigated the attitudes of nursing staff only and their opinions of the general living situation for residents. In Australia, Minnie and Ranzijn (2016) highlighted how acceptance of ones living situation can enhance wellbeing and add value to life in general within the care home setting, but did not specifically link any effect this has on mealtimes. Varied resident acceptance of the living situation and its direct effect on the mealtime experience has not been shown previously and would appear to be the first time that the data in the present study has been reported.

Exploring the concept of 'home' might be an important aspect of reconciling residents' attitudes to the care they receive and their mealtime experience.

Swenson (1998) proposed home should be a place to blend self, independence and

autonomy. Yet, Kofod and Birkemose (2004) showed how a care home may not be perceived as a home, but as a shelter to be looked after. Their mixed method study showed how residents are not friends, but just a group of people who happen to live together. Building on these findings, the vulnerability and difficulties of adapting to residential care by some residents in the present study might be explained by the consequent anxiety felt from moving into a strange and new environment. Ericson-Lidman et al. (2014) undertook research that identified care receivers are in the hands of carers and they cope by adapting themselves to the environment they find themselves in. Psychosocial security is identified by Chuang et al. (2015) and although their research was undertaken in Taiwan, where cultural differences exist to the UK, they found dependency does not have to be perceived as negative, providing the care provider is able to consider quality of life and enable the resident to have a level of autonomy and independence. Whilst other researchers have identified a time of adjustment is needed to settle into a care home, dependency can bring a level of fear to residents (Lee et al. 2001; Franklin et al. 2006). Although fear was not an emotion observed or recorded in the present study, it has already been reported in section 6.3.2.3 that staff had a major influence in creating a supportive environment. Treating people as individuals is highlighted by Sydnor and Felstrom (2005) who showed association with enhanced autonomy as well as encouraging independent choices. Gastmans (1998) argues that good mealtime care is where the nutritional needs of the resident are blended through the relationship with the carer and social ability as well as spiritual requirements being met. He questions whether the autonomy of the resident is taken seriously and staff are too quick to focus on the task of ensuring the physical needs are met. Godin et al. (2015) support this by showing staff and residents have different perspectives of needing help and how this contributes to quality of life, but does not mention how it relates to mealtimes. The themes presented here demonstrate for the first time how the mealtime experience is affected by residents own attitudes to communal living, which may be influenced by their own autonomy and independence. The present study has shown that acceptance of being cared for and the impact on the mealtime experience is complex. Although it is difficult to identify trends from the present research on what causes residents positive or negative feelings towards the mealtime experience, the challenges of encouraging autonomy and independence in communal living have been identified from the literature. Taken together, the findings of the present study present a strong argument for the significance of carers in managing the mealtime experience for those in their care.

6.3.4 Social Environment

The dining environment came under considerable scrutiny from previous research highlighted in the literature review in chapter 2 (Mathey et al. 2001; Nijs et al. 2006; Kenkmann et al. 2010; Du Toit & Surr 2011; Abbott et al. 2013). Already the meaning of 'home' has been identified as a theme to be important to residents, but there are challenges in ensuring how it is offered in the care environment (Mallet 2004; Oswald et al. 2006; Molony 2010; Van Hoof et al. 2016). The present research has identified a number of additional examples of how this part of the residential care home can work to enhance the mealtime experience and these are discussed in section 6.3.4.1. Section 6.3.4.2 critiques the personal choice of where residents wish to eat their meals including why they choose to eat in either their own rooms or the communal setting. Finally, in section 6.3.5.3, the impacts of observed and reported common interruptions during the mealtime experience are discussed in the context of the evidence base and national guidance in health and social care.

6.3.4.1 Dining setting

Many of the dining rooms doubled as activity rooms outside of mealtimes. The more frequented dining rooms were those where it was easily identified that a meal was to be served. Researchers have undertaken studies in the past to recommend tables should be laid appropriately with good quality cutlery, glasses, and condiments to achieve a sense of home (Mathey et al. 2001; Nijs et al. 2006; Abbott et al. 2013), but there have been no studies that show the impact of dual use dining rooms. Ensuring the dining room represented a room in which to eat prior to residents arriving was an important finding in the present study, in order to encourage residents to eat there. The more popular dining rooms in the present study were those that had furniture that was more typical of that found in residents 'own' homes, rather than specifically designed furniture for the care environment. These dining rooms were observed to have books and games on book shelves, adorned sideboards, and wall lights as well as pictures hanging on walls. This 'old fashioned' furniture could have been typical of homes the residents had known or left behind. The less well populated dining rooms were noted to represent modern hotel facilities with purpose built surroundings with impersonal furniture sparsely situated. Interestingly, Lundgren (2000) undertook a qualitative study in three care homes in Sweden to reflect on what was understood by 'homelike'. The interviews from her qualitative study realised this with words such as 'old fashioned', 'decorative lamps', 'warm colours', 'decoration by personnel' encompassed the

residents vision of 'home'. The lack of homelike features are confirmed by Adams and Chivers (2016) to include sparseness of furniture and the presence of medical equipment, whereas pictures, jigsaws and games can give institutions a greater warmer feel. They also suggest clumping large spaces into smaller 'rooms' through strategic use of furniture and plants can increase the feeling of 'homeness'.

However, arranging furniture and dining equipment in a homely manner is not without its challenges. Fleming et al. (2017) discuss that it is often necessary to compromise care in public spaces with tensions between group living, individual preferences and health and safety. They highlight how public spaces in care homes often have signage to prevent accidents and present emergency action plans. Several researchers have demonstrated that having familiar possessions around oneself contributes to a feeling of home, but challenges exist of placing residents belongings in communal areas due to the individual nature of 'home' and personal items going missing (Shenk et 2004; Dahlin-Ivanoff et al. 2007; Molony et al. 2011; Phenice and Grifforre 2013). Interestingly, Rapp (2008) undertook a literature review to understand how different environments impacted on how food was enjoyed. His findings compared diverse eating establishments such as military and hospital canteens, expensive restaurants as well as fast food restaurants. They concluded that the forced choice of 'eating out' was shown to lessen the pleasure of foods and should be considered alongside the physical environment available for eating and drinking. That, combined with comfort of residents, personal belongings in their rooms may be why many residents chose to eat alone in their own rooms, in the present study, especially those in care homes with large impersonal dining rooms. The popularity of the dining room was discussed in section 6.3.3.1, but the link to its popularity with the presence of 'homelike' contributions of peripheral furniture and adornments such as sideboards, older furniture, and low level warm lighting has not been shown previously, and it would appear to be the first time this has been reported.

Staff responses agreed with observations that dining rooms tended to be calm, homely and comfortable. Fewer staff agreed that the dining room was noisy, busy and rushed and generally this is in accordance with observations. Although these factors have been shown to impact on the mealtime experience by Du Toit & Surr (2011), the present study has identified residents can have different opinions about what was comfortable that does not accord with staff opinion. One example was temperature, which was identified by one resident in the present study as a contributor to the enjoyment at mealtime. She identified a conflict of opinion of what

was needed to make the room comfortable and acknowledged it to be a drawback of institutional living. Sound can be important too, with background music being used as a useful tool to enhance the mealtime experience. It was observed to distract from the silence of the residents whilst eating and helped to contribute to the calm atmosphere corroborating the literature findings of Edwards & Gustafsson (2008). They identified the importance of music, linking it to mood and reduced anxiety for restaurant customers. In addition, Wong et al. (2008) found that playing music helped to calm the 28 severely cognitively impaired participants in their intervention study. Those living with forms of dementia were identified in section 6.3.2.1 to negatively impact on the mealtime experience for residents without cognitive impairment. Notably, the calming effect was not observed if the television had been left on. It acted as a distraction to eating for some residents, as well as discouraging staff to socialise. Interestingly, Ulrich et al. (2011) wrote about the notion of 'environment calm' from their study in a single care home in Adelaide, Australia. Phone calls and loud speaker announcements distracted staff as well as television noise. Despite the qualitative evidence from Ulrich et al. (2011), the present study has shown care homes continue to leave the television on at mealtimes. Residents did not comment on this distraction and interestingly despite the presence of television many carers reporting the dining environment was calm. This demonstrates a discrepancy in care practice whereby carers do not understand the distracting effect of televisions playing on the mealtime experience and is an important finding of the present study.

Seating residents around family-style tables was reported to be popular in the present study and helped to increase homeliness which is consistent with the findings of Molony et al. (2011). They identified that family-style living within the care home contributed to the natural activities of home, as well as the freedom to come and go as one pleases. Family-style seating arrangements was observed in the present study to improve socialisation during the mealtime experience, although care had to be taken to ensure friendship groups were recognised due to the social preferences of individuals described in section 6.3.2.1. The preference to sit together around a table is despite older people having various forms of sensory incapacity, and reports in the literature that they struggle to hear and hold a conversation whilst in the dining room (Mahadevan et al. 2013; Toffanello et al. 2013). For many, the act of eating and drinking would have required concentration and effort in order to maintain their independence (Cowley 2005). The fact residents valued being part of a family group, despite the impact of their disabilities

that prevent direct socialisation, has not been shown previously and it would appear to not being reported previously.

Mobility aids, such as walkers and frames, used by many residents were observed in the findings of the present study to enhance their mobility. The aids were observed to increase independence of how and when they moved around the care home, as well as enabling them to take control of where they ate. This contributed to increased use of the dining room that in turn encouraged socialisation whilst eating and drinking. This is confirmed by the findings of Mortenson et al. (2012), who showed mobility aids contribute to freedom and independence for residents and decrease work load for staff, as residents can move around the residential care environment without assistance. However, some of the dining rooms were observed to have inadequate space for mobility aids to be stored, whilst residents ate and drank. Although the consequent extra equipment present appeared to add clutter to the room and hampered movement of people, this did not appear to be a barrier for people coming into the dining room for meals. This is despite Van Hoof et al. (2016) identifying from their qualitative study that a supportive environment should include sufficient space to walk around, which may be to prevent accidents happening (Mortenson et al. 2012). Fortunately, no accidents were observed to happen in the present study but dining room designs appeared to not always take movement into account. The presence of a significant number of mobility aids, whilst reducing available space to move around reinforced that a dining room was busy. It could be hypothesised from these findings - as well as those presented in section 6.1.3.1 - that these busy dining rooms, with extra clutter, become more popular dining rooms inferring good food was served. This has not been suggested previously and it would appear this is the first time it has been reported.

6.3.4.2 Personal choice of where to eat

The present study showed that residents did not feel compelled to eat in one particular place for meals. This is significant, as it has been highlighted by Dunn and Moore (2014), that being able to act in an individual way is an important part of retaining independence and improves overall resident wellbeing. Wikstrom and Emilsson (2014) recognised not being able to eat and drink where one wishes can contribute to reduced autonomy at mealtimes. Grondaal and Aargaard (2015) related how reduced autonomy and residents not being able to sit with whom they chose, contributed to risk of undernutrition from their quantitative cross sectional

survey results of 204 residents in nursing homes in Norway, but made no mention of the overall effect on the mealtime experience. Staff in the present study acknowledged residents' wishes by recognising residents did not always want to eat in the dining room and socialise at mealtimes. To some extent this has been discussed in section 6.1.3 from a staff perspective. Consequently, staff felt residents should be given the opportunity to choose where they wished to eat specific meals. These findings correspond with those of Philpin et al. (2011), who identified from their qualitative study, using focus groups, that not all residents wish to eat in dining rooms, but at the same time it was important for staff to recognise they should not encourage residents eating in their own rooms. They concluded this is due to the impact on quality of life due to isolation and possible negative impact on food and drink consumption. Keller et al. (2013) too, identified a connection between residents who eat in their own room are more likely to lose weight from their study on socialisation. Social mealtimes have been shown to be important (Crogan et al. 2004; Koehler and Leonhaeuser 2008) and dining rooms offer the opportunity to socialise (Crogan et al. 2004; Barnes et al. 2013). At the same time, residents should be given the opportunity to withdraw or be given the opportunity to not mix with others, at any time, in line with principles of dignified, free informed consent (Gastmans 1998; Philpin et al. 2011). The complexity of balancing socialisation of residents and ensuring dignity and autonomy appears to be recognised with staff in the present study, but the literature has highlighted that those who regularly eat in their own room may be experiencing a negative mealtime experience and at increased risk of undernutrition and dehydration (Nijs et al 2006; Wright et al. 2006). Staff had the difficult task of considering the positive effects of encouraging residents to socialise, whilst respecting autonomous wishes if they wish to eat alone. An example identified in the present study of how staff might balance this practically was to ensure residents have a dedicated place to eat in the communal areas, with friendship groups, which should only be changed through discussion with the resident directly. Although this could reduce anxiety of eating in the dining room, it is important to recognise that many residents will have been accustomed to living alone before moving into the care home and may continue to want to do so (Laing 2014). Training was identified to be important in section 6.3.2.3 and education tool kits have been used successfully to train care staff in other areas of personal care for older adults, such as patient handling (Capewell et al. 2011) and home care (Gabbidon 2016). Taken with the findings of the present study, it can be hypothesised that there are opportunities to equip staff with a range

of tools and techniques that can enable them to balance and respect resident's wishes of where to eat, to ultimately ensure a positive mealtime experience.

One of the issues that staff must account for when respecting where residents wish to eat are what motivates residents to eat alone. These varied for residents in the present study with explanations such as poor mobility, disabilities and unwillingness to cause more work for carers. This conflict between staff recognition of what is best for the resident and residents' own wishes of where to eat meals was recognised by Sidenvall et al. (1998). They showed that there is sometimes conflict between staff who are influenced by the organisation culture, to encourage eating in the dining room even when residents want their dignity considered, and wish to eat alone because disability compromises their eating. Some residents involved with the present study regarded eating in the dining room as an inconvenience due to the difficulties of moving from their room. This might have been explained by the observations made when staff assisted those in wheelchairs: residents were pushed into the dining room very early and then sat with nothing to do. Pushing wheelchairs to the dining room was observed to require considerable staff resources and in order to get all wheelchair users into the dining room on time staff regarded it as necessary to start the process early. The quantitative results identified that not all staff recognised the waiting time that residents had to endure, showing a discrepancy between what was actually happening to residents and staff understanding. Additionally in the present study, residents often referred to how busy staff were, and it is possible residents perceived eating in their own rooms to cause less work for staff. There is a lack of evidence to defend this argument, although staff shortages were identified in 6.3.3.1 to impact on how staff were able to support residents at mealtimes. Taken with the findings above, it is proposed that staff shortages and the consequent pressure on other staff to do the work was observed by residents, leading to them to wish to avoid making extra work for these staff.

Meals were an opportunity for residents to exert control, as well as an activity to look forward to. Staff and residents recognised how the expectation of the meal may change, as waiting times become too long, and lead to negative connotations for the mealtime experience. Interestingly, those who had been on the experiential training showed more understanding of how important mealtimes were to residents, both in the structure of the day and how expectations were not always met. Waiting times in restaurants have been shown to impact on mealtime experience, with expectations being different depending on the circumstances, restaurant type and

amount of time available (Edwards 2013). The Five Aspect Meal Model (Edwards and Gustafsson 2008) and Making the Most of Mealtimes Model (M3) (Keller et al. 2014) take into account various aspects of eating and drinking in care homes, but little is available in the literature about how anticipation of food and drink can affect the mealtime experience in care homes. Care home residents' expectations, when waiting for meals, and how these influence the mealtime experience in an otherwise monotonous day, has not been shown before and it would appear this is the first time this is recorded.

6.3.4.3 Interruptions

In the present study, staff reported in the questionnaires that they felt residents were not interrupted at mealtimes. In contrast, staff interviews identified that there was a tendency for visiting health professionals to interrupt mealtimes. Community care involves multi-disciplinary teams including nurses, GPs and therapy professionals (Edwards 2013). They all provide a wide variety of services and complement the work of the care team within the residential home (Maybin et al. 2016). There is limited data available about the amount of care they provide in care homes (Foot et al. 2014), but staff in the present study acknowledged how busy these health professionals were. These services are outside of the control of the care home and although staff reported asking health professionals to not visit at mealtimes, they recognised this was often unavoidable due to other commitments at busy clinics. Raising the profile of eating, drinking and particularly the mealtime experience for health care staff is discussed in section 6.4.5. How this is done is outside the scope of this thesis, however taken with the findings of the present study, it can be hoped that incremental changes to health professional nutrition knowledge may lead to an appreciation of the importance of mealtimes for residents.

Medicine trolleys were observed to intrude on mealtimes in all but one of the care settings of the present study. Carers were observed to give medication to all residents during their main course using large cumbersome pharmacy trolleys. This did not seem to be of consequence to the residents, who made no comment; however, it not only led to medical implications for the mealtime experience; but additionally, staff dispensing medication were unable to support residents to eat and drink. As previously identified in section 6.1.4.1, this is supported by Adams and Chivers (2016), who concluded medical equipment detracted from a homely environment. National guidance for hospitals encourages no interruptions during

mealtimes. Protected mealtimes were identified as an important component of mealtimes for hospitals and care homes in the literature review presented in Chapter 2 of this thesis (Council for Europe 2003; Community Care 2007; Department of Health 2015). Protected mealtimes were introduced into hospitals in 2001 with the Better Hospital Food Programme (BAPEN 2001). The guidance regarding drug rounds states:

“To limit ward based activities, both clinical (i.e. drug rounds) and non-clinical (i.e. cleaning tasks) to those that are relevant to mealtimes or ‘essential’ to undertake at that time.”

Yet, this national policy does not seem to be being followed in the care homes in the present study. Staff appeared to be unaware of the national guidelines of how medication trolleys can interrupt mealtimes. Whether medication rounds impacted on the mealtime experience for residents was unreported and therefore unknown. Walton et al. (2013) identified how both breakfasts and lunchtimes were regularly interrupted on hospital wards with a negative effect on mealtimes for patients. Murray (2006) reported that her experience at a hospital in Bradford meant medication rounds could be timed differently to avoid mealtimes and allow the focus to be on supporting patients to eat. Although policy supports the argument for protected mealtimes the evidence to show the benefits in terms of the mealtime experience is less clear. Previous qualitative research cited in section 6.3.2.2 by Walton et al. (2013), Ulrich et al. (2011) and a systematic review by Porter et al. (2017) shows there are limitations to their success and the benefit in reducing risk to undernutrition and dehydration are in doubt. However, current policy indicates that medication rounds should be scheduled at different times to mealtimes and yet, there was only one care home in the present study that observed this and none reported to have a protected mealtime policy. This important reflection has not been shown previously and it would appear this is the first time this has been reported.

6.4 **Technical Approach**

The theme of ‘Technical approach’ was identified in the findings presented in chapter 5 to be of importance to both staff and residents. This part of the discussion critiques these findings to understand the barriers and enablers of the mealtime experience with respect to dining service (section 6.4.1), sensory appeal (section 6.4.2.), involvement with food (section 6.4.3), hydration (section 6.4.4) and engagement of health professionals (section 6.4.5). The literature review identified

the challenges for food-service delivery to meet all residents' food and drink preferences (Hartman-Petrycka et al. 2015; Watkins et al. 2017a). The quality of food desired by residents did not always match expectations or perceptions of residents that inferior ingredients are used (Boelsma et al. 2014). Current guidelines and standards require residential social care to follow Public Health England healthy eating guidelines when planning menus, which requires them to balance compliance with dignity and humanised care for residents (PHE 2014; CQC 2017a). However, the relevance, consequence and complexities of these policies and the impact on person-centred care for older people living in long-term institutions have already been highlighted in section 6.3.3.1. These are discussed further in this section with respect to the practical applications. These include having a wide variety of foods available throughout the day that meet food preferences, nutritional requirements and hydration needs. Liking of food is strongly correlated with food intake in a quantitative sensory analysis based study by Pouyet et al. (2015) and the good meal experience will determine how food is perceived. The present study has identified important contributors to the food and drink service to improve the hedonic characteristics of the mealtime experience. Menu cycle, food availability, temperature of food and length of meal are discussed together in terms of dining service offered in order to fully critique these sub-themes with each other and the available literature in Section 6.4.1. The impact of care homes' responsibilities to ensure the nutritional value of food is critiqued alongside these factors of dining service in the same section, with sensory attributes of food discussed in Section 6.4.2. Involvement with food in Section 6.4.3 incorporates the findings of how food is served to residents including portion size and serving method. Ferry (2005), Hendry and Ogden (2016) and Oates & Price (2017) have all undertaken research studies that identify how residents are susceptible to dehydration; although risk factors are recognised by staff, the present study highlights how staff struggle to make adequate hydration a priority and this is discussed in Section 6.4.4. Health professionals including GPs and district nurses have been identified to be at the frontline of managing undernutrition, and yet challenges exist in disseminating the information to care staff and this is discussed in section 6.4.5.

6.4.1 Dining Service

In the present study, breakfast was reported by residents and staff to be popular and normally taken in residents rooms, after the staff day shift started work at 08.00. The residents interviewed stated how they appreciated not having to get out of bed

too quickly in the mornings. The challenges associated with frailty meant residents found it easier to take things slowly in the morning, and staff reported they often had to help residents to complete their personal care. No figures appear to exist for how many residents of UK care homes require personal care assistance in the morning, but over 60% of American care home residents have been estimated to have assisted daily living limitations and require help to go to the bathroom, dress and have bed mobility problems (Alexander et al. 2000; Grando et al. 2005). This puts considerable pressure on staff to deliver timely person-centred care, and yet there appear to be no previous studies that have understood the balance of delivering person-centred personal care at this time of day and maximising the mealtime experience at breakfast.

Breakfast appeared to be a popular meal and the findings of the present research accords with those of Reeves et al. (2013) who looked at breakfast habits of the younger adult population under 65 years. They found the most common foods eaten are cereal, bread or toast, and porridge or muesli as well as tea and coffee. Much work has been done to understand the benefits of breakfast to the younger population, which can include enhanced cognitive performance, improved mental health and overall improved diet quality (Hallstrom et al. 2011). Van Wymelbeke et al. (2016) found giving a fortified brioche (rich in protein and fat) to undernourished residents at breakfast in nursing homes in France improved total energy intake with better results than the typical breakfast provided or ONS. They regarded brioche as a staple breakfast food in France and concluded its familiarity with residents contributed to consumption. Yet, there appears to be no direct evidence in the literature of the role breakfast has on reducing undernutrition in the UK and at the same time increasing health and wellbeing in institutionalised older adults, as well as more specifically on breakfast habits of this age group. Hallstrom et al. (2011) recognised that individuals have their own habits and beliefs about breakfast and research by Mintel (2016) has shown that older free-living adults (55+) are least likely to skip breakfast. Watkins et al. (2017b) found in their qualitative interviews in four UK care homes, that residents reported to continue with long established eating habits once living in the care home. Together with the findings of the present study, it could be hypothesised that familiar breakfast habits continue once in residential care.

Lunch times were when the main meal was served in all care homes in the present study, as either two or three courses. This is typical in care homes not only in the UK, but in many European countries (Suominen et al. 2004; Philpin et al. 2014).

Residents reported being hungry at lunch time; therefore, providing a large meal of several courses helped to satisfy that hunger. Hunger patterns have been shown to vary for older residents living with dementia by Murphy et al. (2017). They reported mood, time of day and anxiety could impact on food intake although there appears to be no documented evidence to support this for those with no cognitive impairment living in care homes. It is well known that hunger, for free-living individuals, can be influenced by a wide range of psychological, cultural and physiological factors (Huh et al. 2015). Extended mealtimes and delivering meals at different times were shown by Lowndes et al. (2018) to offer residents flexibility and choice of when to eat. Evening meals, in the present study, were either delivered to residents in their rooms or to a communal area. Timings were reported to vary, but most were delivered late afternoon and were reported to depend on staff shift patterns. Residents reported mixed views as to whether meals were served too early for them to be hungry enough to eat well and enjoy the food and drink. They reported being rushed at times which conflicts with staff views from the quantitative data. Numerous studies identify how shift patterns can impact on activities of daily living, personal care and clinical care, but none have identified the impact of shift patterns on the mealtime experience (Burgio et al. 2004; Lee et al. 2014; McCloskey et al. 2015). Luff et al. (2011) showed in their mixed methods research the impact of shift patterns on 125 residents' bed times and many residents were encouraged to go to bed before the night shift started when fewer staff would be on duty. Kofod and Birkemose (2004) identified that mealtimes in institutions can never match those eaten at home and that staff have more positive reflections on mealtimes than residents, but no research appears to have been conducted on the effect shift patterns have on mealtimes. Staff pressure on residents to finish meals due to work shift patterns could be regarded as a barrier to the mealtime experience. This has not been shown previously and it would appear this is the first time this has been reported.

Staff found presenting a varied menu for late afternoon challenging. Most reported following the format of high tea. Challenges were highlighted to exist in developing menus for the restaurant sector by Filimonau and Krivcova (2017) including availability of in-house resources, time, labour and expertise. The present study identified for the first time, how residents can be used to co-create menus in section 6.3.1.2 and this could act as a solution to these difficulties. No resident commented on being hungry later in the evening, although those staff attending the experiential training became informed of how residents might get hungry at this point in the day.

Yet, nearly half of the residents in the care homes in the present study were identified through the quantitative data to not have access to food for periods longer than eleven hours overnight. The literature review identified that no UK guidelines exist for the maximum time food is unavailable to residents overnight, although Chisholm et al. (2011) identified the gap could be up to fourteen hours in their Swedish study, despite recommendations from the Swedish National Food Administration, who recommend no more than eleven hours. There appears to be no data to understand what a normal overnight fast is, for older adults in the UK, but given that older adults are susceptible to undernutrition, snacks could be used to bridge the gap in food unavailability between tea time and breakfast (Chisholm et al. 2011).

The preference reported by the frail residents in the present study for small portions at mealtimes may also require more frequent snacks and small meals. Residents reported how snacks gave them some independence and autonomy to be able to choose when and what they could eat improving their overall wellbeing. Two useful ways to introduce snacks in care homes were identified in the present study; the use of a tuck shop trolley and provision of evening sandwiches. Snacks were shown to boost total energy intake and prevent undernutrition and hunger by Bhat et al. 2016 and Dennisen et al. 2017. This is supported by other researchers who advise offering snacks and small meals throughout the day and night to reduce undernutrition risk (Lorrefalt et al. 2011; Abbott et al. 2013). Simmons and Schnelle (2004) identified that 44% of participants who were offered snacks three times a day, in addition to main meals, significantly increased the energy intake. Taking this evidence from the literature, as well as the findings in the present study, having snacks freely available to residents to help themselves has the potential to increase energy intake. Despite the evidence supporting widely available snacks, many care homes in the present study appeared to expect a long night-time fast by residents, with staff reporting a wide variety of snacks were not always on offer all the time, which could be contributing to insufficient food and drink consumption of residents in care homes. This could consequently lead to subsequent undernutrition and dehydration and negatively impacting on the overall mealtime experience.

Menu cycles in the care homes visited in the present study varied from being on a formal, four-week rota to spontaneous, informal planning based on food available, seasons and weather. Private independent homes were more likely to offer an increased incidence of spontaneity such as themed events or outings with ad hoc meals being reported by interviewees to break the monotony of care home life.

Conversely, the bigger organisations reported an increased tendency for the menu cycle to be more structured, with only small local adaptations allowed, although this was not regarded negatively by residents in the present study. Although Carrier et al. (2009) reported frequent menu changes can stimulate appetite and break the boredom and monotony of foods within a care home, it was reported by Chisholm et al. (2011) repetitive menu cycles are not uncommon in the residential social care sector. Their New Zealand based observational study identified 90 % of care homes had three meals a day, delivered with menu cycles of between 4 and 6 weeks. Additionally, national auditors require proof of delivering balanced menus, for which planned menus can act as evidence (CQC, 2012). Bamford et al. (2012) identified how staff did not implement many changes to menus. The present research has identified considerable variation to menu cycles with some care home staff reporting putting significant effort into making the menu varied, which conflicts with the literature, but has the potential to contribute to good practice in delivering the mealtime experience.

In the present study, food was reported to be generally served at adequate temperatures. Complaints arose from a few residents that food was served cold, either when they were the last to be served or especially whilst eating alone when later courses brought with the main meal were cold by the time residents ate them. These complaints of cold food are consistent with previous research by Chan et al. (2012), who recognised ten per cent of residents in a care home in Edmonton, Canada reported that food was not warm enough. Hartwell et al. (2006) showed in their quantitative study on hospital food that serving the food at the correct temperature effects the enjoyment of that meal. Pressures on staff time from shortages and the complexity of the meal service have been discussed previously in section 6.3.2.3 and will compound the difficulties of ensuring food is served hot. The design of the care homes in the present study varied from converted houses and hotels to purpose-built residences, which kitchens varied in proximity to the dining room. There is evidence in a small study by Chan et al (2012), who collected data from 12 residents using Food Satisfaction Questionnaire, positioning the kitchen closer to the dining room enables the cooking smells to stimulate appetite and makes it easier to serve fresh, hot food directly to residents. Hung et al. (2016) promote the use of open style kitchens to encourage residents to become more involved with the food preparation and yet, no care home visited in the present study had an open style kitchen where food preparation could be viewed and smelt. Care home sizes are increasing in terms of number of residents (IPC 2017) and it

was shown in the present study that the newer, purpose-built, larger care homes visited had kitchens positioned further away from the dining areas. Serving food to different people in different places in residential homes has been identified to have challenges and although the literature supports kitchens to be close to point of consumption, there is evidence from the present findings that this is not happening. At the same time, staff needed to be particularly aware of hot food when assisting residents to eat and drink. This is the first time it has been identified that food might be served too hot for frail residents requiring assistance. Evidence from the present study identifies how staff should be trained to ensure they understand the importance of temperature so as not to burn individuals they are trying to assist and to maximise the eating experience of all residents.

One care home in this study had a policy of testing the temperature of food just prior to being served. From experience, testing temperature of cooked food is not done by those living independently at home. Although this ensured the safety of the food, it was observed to detract from the homeliness of the dining setting in the eyes of the researcher. Interestingly, the dining room in the care home concerned was not well used on the day of study, and this observation concords with previous findings in section 6.3.4.1 of 'homeliness'. Food safety is important for this vulnerable sector of the community. Nicolle (2001) highlighted how older people in residential centres are susceptible to food-borne disease including Salmonella and Ecoli 0157, with Bernoth et al. (2014) identifying residential care homes in their Australian study to limit food choice because of food safety risks. Fortunately, these concerns were not identified in this study. The Food Standards Agency publish legislation to ensure hot food should be served above 63°C and care homes are subject to food hygiene inspections by the local authorities (FSA 2016). Food safety is embedded in Care Quality Commission Fundamental Standards (CQC 2017a). Food safety is an important aspect of the mealtime experience and carers required knowledge to ensure food is safe to eat; however, additionally, drawing on the findings of the present study they should understand the potential impact of activities, such as measuring food temperature, have on residents and the psychosocial determinants of the mealtime experience.

6.4.2 Sensory appeal

Residents in the present study reported mixed satisfaction with the sensory appeal of the food on offer, especially with reference to the presentation affecting overall liking. In all residences, food was reported to be freshly prepared on site and many

care home staff were proud of the food served. Residents were more positive about their food experience than past researchers would suggest. Chisholm et al. (2011), in their study in New Zealand, found institutional food was often regarded as being inferior to home cooked food. Australian family members reported in interviews with Bernoth et al. (2014) that food was watered down and of inferior quality in the care homes in their study. Research by Boelsma et al. (2014), using interviews and observations, also found their 58 Dutch participating residents were often dissatisfied with institutional food. Fresh vegetables were appreciated by residents in the present study with the specific psychological appeal of fruit and vegetables grown locally. Residents reported how fruit and vegetables added colour and texture to plates, although not always eaten due to difficulties chewing they improved the appearance of a plate of food. This accords with the research reported by Hollis and Henry (2007) and more recently Divert et al. (2015), who identified offering several portions of vegetables on the plate improved sensory appeal of the overall meal. However, staff reported in the present study that vegetables were left uneaten at the end of the meal and they did not appear to understand the hidden benefit of vegetables in improving the overall sensory properties of the plated meal.

Canned fruit and vegetables were reported to be used as residents found them easy to eat, but staff failed to realise the reduced nutritional value compared to the fresh equivalent. Staff in the present study had to balance the dilemma of meeting individual nutritional requirements with food preferences and frailty challenges such as dentition and chewing difficulties. However, an important additional finding of the present study was to identify the overall popularity and liking of vegetables was very polarising. Residents were very opinionated about the appeal of how fruit and vegetables were served and cooked. These diverse opinions depended on previous life history and residents' experiences, and these associations undoubtedly impacted on their enjoyment once living in an institutional setting. There was significant criticism of vegetables being undercooked, overcooked and the use of frozen vegetables. Other researchers have identified problems of eating fruit and vegetables. Mingioni et al. (2016) presents quantitative evidence that UK based older adults tend to eat fewer vegetables than their European counterparts and Fernandez-Barres et al. (2016) showed there was a tendency to serve easy to chew food to residents in a care home in Spain. Maitre et al. (2014) identified chewing and mastication problems for older adults contributed to not eating sufficient vegetables and fruit and overcooking them might help encourage consumption.

This is because older adults have reduced muscle mass and increased dental problems and may lose the ability to chew and masticate hard foods (Mahadevan et al. 2013). Laguna et al. (2015) found that not only does capability to chew foods decrease with age, but so does hand and finger strength. Fruit and vegetables are an important source of fibre and micronutrients (Slavin and Lloyd 2012). The variation in appeal of vegetables and fruit for residents found in the present study, their consequent reduced consumption, and overcooking vegetables could result in reducing fibre and micronutrient intake with consequent impact on constipation problems and undernutrition. These polarised opinions from residents about the presentation of vegetables, and the proposed link to consumption being based on previous experiences, has not been shown previously and it would appear this is the first time it has been reported.

6.4.3 Involvement with food

Serving methods of the main meal varied in the present study. Although strong views were not expressed by residents, it was observed that those dining rooms that were well populated all had an element of family style serving of vegetables. Interestingly, Chisholm et al. (2011) reported that 9 out of 50 care homes in their study enabled residents to serve their own vegetables and sauce and identified that this helped to contribute to resident autonomy from the observations conducted by the student researchers. The links between increased independence and autonomy with socialisation and enhanced wellbeing for residents were discussed in section 6.3.2.1 and serving oneself at meals was observed to contribute to sense of community and social interaction in the present study. This is reinforced by Barnes et al. (2011) in their observational study, who showed that serving oneself can add to discussion at the dinner table, as well as encouraging residents to support and help each other. Other researchers confirm this. Nijs et al. (2006) identified that family style dining and self-serve at the table improved quality of life scores, as well as leading to an increase in food intake by a mean of 117kcal per day. Taking the findings of the present study together with the literature, it is evident that serving oneself different foods could improve the mealtime experience in care homes by increasing autonomy and independence. However, this was only observed in a few care homes and it is evident many are unaware of, or not responding to, the contribution this could have to the mealtime experience.

Portion sizes in this study varied, but many residents were not keen on large portion sizes and this is confirmed in research by Divert et al. (2015). Evans and Crogan

(2005) also demonstrated that if portion sizes are too big, they can negatively impact on food intake for older adults. The motivations of why older people living in residential care choose small portions are not fully understood. Large portions were shown by Huffman (2002) to be daunting and overwhelming for older adults. Reduced appetite has been shown by Pilgrim et al. (2015) to be problematic for older adults to gain sufficient nutrients. It was recommended by Dennisen et al. (2017) that care homes should offer flexibility of portion sizes to deliver person-centred meals. Self-serve meals, identified earlier in this section, could offer residents independence to enable them to do this. An alternative opinion that requires consideration is the effect of one's peers on eating habits and food choice. These have been identified in the younger population by other researchers. Salvy et al. (2012) propose that social norms indicate a point exists where it is appropriate to stop eating in a communal setting. Shepherd and Dennison (1995) identify that adolescents do not eat in a social vacuum, but food choice is influenced by those around them. There is no evidence available to determine if older adults living in residential care and eating together can influence each other regarding food choice and consumption. It might be assumed from work done by Divert et al. (2015) that reduced appetite is the sole contributor to not eating enough. However, by drawing on the findings of the present study, as well as those in the literature, it could be hypothesised that other influences such as eating with others and not being seen to be too greedy may be negatively affecting food consumption and the mealtime experience.

6.4.4 Hydration

Availability of drinks varied in the care homes in the present study. Although staff reported they understood the importance of hydration, they were observed to forget to provide drinks with the focus of their attention on delivering food. Interestingly, emphasis on food delivery accords with the quantitative results, with approximately a third of staff responding that they monitored food consumption more than drink consumption. Although it is well established in the literature that incidence of dehydration is high for care home residents due to lack of fluid intake (Bennett et al. 2004; Archibold 2006), it would appear fluid intake was not seen as a priority for staff in the present study. Jimoh et al. (2015) found that staff tended to ignore the more able residents, despite them not drinking enough, and this could be accounted for by the significant pressures on staff time discussed in section 6.3.2.3. Kayser-Jones et al. (1999) argue that mealtimes encourage spontaneous drinking behaviour and proposed that if insufficient drink is consumed, then it is possible that

insufficient food will be consumed, directly linking dehydration to undernutrition. National initiatives of managing undernutrition (NACC 2013; CQC 2017a; BAPEN 2018) may have inadvertently directed the emphasis of the carer on delivering food and not drink. It could be hypothesised, therefore from these findings, as well as those of the present study, that this could be why staff appeared to forget about the importance of hydration.

Additionally, residents identified they knew they should drink and realised they tended to forget. Thirst mechanism diminishes with age (Bennett 2000) and strategies to support hydration are suggested in the literature. These include recommendations by Hooper et al. (2016) that residents should be encouraged to drink through habit and routine. Simmons et al. (2001) showed increased prompting of residents in the care setting can significantly increase fluid consumption, yet there was little evidence of motivating and reminding residents to drink in the present study. Other strategies, again not observed in the present study, but identified from the literature previously are to have self-serve drinks available in either a café style or freely available in communal areas (Kenkman et al. 2010; Hung et al. 2016; Andrew and Ritchie 2017). The present study has identified the lack of prominence placed on hydration by staff in care homes. There are opportunities and strategies, identified from the literature in chapter 3, to promote hydration that are not being utilised in care homes in the present study and could enhance fluid intake.

6.4.5 Engagement of Health Professionals

Staff reported to have a good relationship with their local health centre and GPs, but many felt unsupported to manage nutrition related health problems. In particular, staff in the present study reported undertaking nutrition screening using 'MUST' and referring 'at risk' residents to local health care teams. Despite these stated referrals, dietetic support was reported by staff to be difficult to access and it was evident that health professionals, including GPs and district nurses were at the front line of managing undernutrition for residents in care homes. Yet Arvanitakas et al. (2009) identified that health professionals other than dietitians often have little nutrition training themselves which means they too, lack knowledge about undernutrition. This is supported more recently by Broad and Wallace (2018) and O'Mahony et al. (2011), who identified the lack of nutrition training for doctors at medical school and nursing training respectively. Problems can be exacerbated by

not having appropriate local undernutrition management protocols in place (Brotherton et al. 2012b), despite national policies being available (NICE 2006; NICE 2012; NICE 2015a). It is therefore not surprising that staff in the present study felt unsupported to deal with the consequences of undernutrition. Staff felt strongly that oral nutritional supplements (ONS) were needed to treat undernutrition yet GPs were reported to be reluctant to prescribe ONS due to the expense. The evidence of using ONS is complex. Indeed, Baldwin et al. (2016) identified in their systematic literature review that few studies are available to understand the effectiveness of either ONS or food fortification in managing undernutrition. Dietary counselling alongside ONS can have positive effects on weight gain but not necessarily clinical outcomes of undernutrition (Baldwin and Weekes 2012); predictably staff in the present study felt they should be prescribed for residents. Silver et al (2008) did show that participants receiving fortified foods did show greater energy intakes than those receiving usual care but this study was in hospitals not care homes. However, staff also showed a lack of awareness of the benefits of low cost alternatives, such as fortifying food, which is part of the recommendations for nutritional care pathways to effectively manage undernutrition (Brotherton et al. 2012b). Merrell et al. (2012) too, identified in their study, care home staff were unaware of how to boost energy intake from food fortification. Studies on the role of multidisciplinary health professional involvement to manage quality of life, muscle strength, and oral care have been shown to benefit older people living in residential care (O'Brien et al. 2008; Beck et al. 2016). The present study has reinforced the findings in the literature that there are opportunities for dietitians and nutritionists to inform front line health professionals, such as GPs and district nurses on the strategies needed to manage undernutrition, and for them in turn to disseminate to care staff to help them feel more supported on the issue of undernutrition and able to manage it more effectively in a timely manner.

6.5 **MealCare Framework**

Section 5.5 presented the new 'MealCare' model to diagrammatically represent the holistic factors of the topics and themes elucidated by the data in the results section. The present study has identified there is more to good nutritional care than food-service and that this is not always understood by those responsible for delivering mealtimes in care homes. The 'MealCare' model in Figure 31 is aimed at improving the mealtime experience by all those involved in the nutritional care of residents, including formal carers and kitchen staff, residents, visitors, as well as policy makers. Training providers have a part to play as the findings of the present study

identified how different education techniques can impact on learning outcomes for individuals. The major themes including the psychosocial influences, technical aspects of food service as well as training identified in the present study would be useful to develop training that fully embraces the holistic nature of the mealtime experience.

Other frameworks and their gaps in knowledge were critiqued in the literature review in chapter 3 (Edwards and Gustaffson, 2008; Chang et al. 2015; Illario et al. 2016; Keller et al. 2017; Murphy et al. 2017; Watkins et al. 2017b). Unlike these researchers, the present study has fully reflected on the complete mealtime experience for residents living in long-term residential care in the UK from both a resident and staff perspective. Mealtimes are central to good nutritional care (Gibbs and Keller 2005). The 'MealCare' model has built upon the concept of the social, ecological model of development (McLaren & Hawe 2005) to position the individual in the centre of the structure. Interestingly, the 'Five aspects meal model' that is presented by Edwards and Gustaffson (2008) identifies important themes included in the 'MealCare' Model. Their model was aimed at the commercial hospitality sector and similarities in themes include room (environment), meeting (social and personal relationships with staff, residents and visitors, product (dining service) management control systems and atmosphere (environment). Hansen et al. (2005) identify similar themes for a la carte dining that include core product, company, restaurant interior and personal social meeting. Identification of these themes in the restaurant sector have the potential to contribute to the mealtime experience in care homes, but consideration and knowledge is also required of the additional perception of home for residents. The forced choice of eating out every day and lack of homeliness was identified in the present study to be a barrier to the mealtime experience and requires consideration when establishing the environmental and social setting of the care home. The microsystem that involves the individual residents and their personal meals includes the main themes critiqued in the present study including psychosocial influences of staff and residents and technical food-service. The macro-system is situated further outside these personal experiences and includes training, health professionals and management structures. Together they holistically contribute to the overall mealtime experience for residents living in long term residential care homes.

7 Conclusion, implications for practice, limitations and opportunities for further research

7.1 Conclusion

In the discussion, it was argued that the mealtime experience was affected by complex psychosocial factors that can be used effectively to encourage independence and autonomy of residents through dignified care by staff. Ensuring food and drink of choice is delivered to individuals when and where they want to eat is an important aspect of the mealtime experience that has the potential to contribute to the quality of the physical, mental and emotional status of the older person in residential care. Individual resident autonomy and independence maybe further promoted by blending staff knowledge of resident eating preferences that include: where to eat (dining environment), who to eat with (socialisation) and what to eat and drink (food and drink service). Importantly, this research project has identified a number of themes and influences of the mealtime experience that have previously not been reported.

There is a broad spectrum of influences on the psychosocial aspect of mealtimes that include: person-centred care, social setting, environmental impact; support to eat and drink; personal attitudes of staff and residents as well as the technical aspects of the food and drink service, sensory appeal, involvement with food and hydration. Each component contributes incremental steps towards delivering a good mealtime experience and together they have the potential to contribute to the overall quality of life and wellbeing of residents. The holistic nature of mealtimes requires all the factors identified in both the psychosocial influences and technical aspects to interconnect together to focus on delivering a positive, person-centred experience for the older resident living in residential care. Importantly the key findings draw on these themes to collectively enhance the holistic mealtime experience:

Key finding 1 - Socialisation

Eating and drinking are an important opportunity for interaction with carers, other residents and visitors to develop socialisation. Different personalities, friendship groups, frailty issues and an element of transience to the resident population, as well as the influence of staff all impact on the mealtime experience. Staff practice

was shown to be affected by personal attitudes, as well as their relationship with residents. These are vital influences that must be adapted to ensure staff can deliver a humanised approach that supports eating and drinking. Different education pedagogies have been shown to enhance knowledge and understanding of how staff can influence the mealtime experience. Training methods differ in their effectivity with greater staff empathy demonstrated following reflective experiential training. The one day in class nutrition training enabled staff to develop their knowledge about specific aspects of nutrition relating to food service that were dominant in the theme technical approach. Although in all cases, it was clear learning was based on individual's experiences and knowledge gaps.

Ambience in the dining room depends not only on the physical setting, but social opportunities, security and support, as well as assistance. In particular, staff should consider the reassurance of individual resident when allocating seating plans and the impact of difficult residents on the mealtime situation. Significantly, there was evidence that family style meals increased socialisation for residents, especially when staff partook. Home has a role to play in the dining room with strategic use of homely furniture and adornments. Music and staff presence have all been shown to positively influence the social aspects of the mealtime experience. Together, these elements of the mealtime experience contribute to older resident enjoyment of food and drink.

Key finding 2 Responsibility of everyone

Nutrition and the mealtime experience is the responsibility of all staff within the care setting. Compartmentalising staff departments can lead to disassociation by staff members in delivering direct care. Importantly, kitchen staff were not always seen to be part of the care team. They, as well as health care assistants and nurses, have a responsibility to know individuals food and drink preferences as well as gain feedback on menu plans in order to offer choice and variety, regardless of frailty and complex dietary requirements. All staff did not always know how to offer appropriate food choice for those living with diet dependent conditions. The present study has shown co-operation between all care home staff, and residents themselves has the potential to optimise the holistic mealtime experience for older adults in residential care. Co-creation of menus with staff, especially kitchen staff, and residents has the potential to encourage involvement and self-respect for residents care with consequent engagement and interest in mealtimes. Staff can inspire a sense of security as well as autonomy and independence for residents.

Health professionals, particularly dietitians, GPs and district nurses are regarded as important sources of information by care home staff, but are not always supportive due to lack of resources and gaps in their own training.

Residents too, have a responsibility for the mealtime experience. Many recognised the limitations of living within the residential care setting. Those who responded positively to the supportive environment appreciated the security of being known to staff. However for some, the negative impact of the loss of independence was acknowledged and appeared to adversely affect the mealtime experience.

Ultimately attitudes of residents are complex and some appear to have an 'in built' positivity, whereas others are more negative. As frailty issues become more pronounced and daily living tasks need more assistance, food and drink becomes an element of residents' lives where they can retain a level of control.

Key finding 3 *Person-centred care to deliver food choice*

The present study has shown that staff can underestimate their influence at mealtimes by focusing only on the task of delivering food and drink. Flexibility should allow staff to focus on person-centred delivery of food and drink day and night in an environment to suit individuals, rather than be led by institutional systems. This has the potential to influence resident autonomy, independence and dignity. Knowledge of residents food preferences are provided by staff information systems that include care plans. These should aim to empower residents by continuously updating and communicating these care plans and enabling staff to act on the information they contain. This study has highlighted how established, experienced carers tend to know individual mealtime experience preferences, but information on residents mealtime preferences change over time and these are not always recorded and shared, leading to assumptions on food choice. This can lead to poor communication between all staff and residents, subsequently leading to poor delivery of a good mealtime experience. Food choice should be captured in a timely manner that allows flexibility for residents, with food based activities and ad hoc themed meals adding variety and interest. Delivery of person-centred, humanised care is fundamental throughout the mealtime experience. Mealtimes in care homes are an important component of the day that break monotony of daily living, but do not always come up to residents expectations. Importantly, staff should be aware of resident vulnerability. Despite national guidelines promoting person-centred and humanised care, this study has demonstrated that some staff are unaware of the role of dignity in the mealtime experience.

The technical aspects of the food and drink experience have had greater recognition historically and to some extent are embedded in the care home culture, which was identified in the present study, mainly due to their emphasis in national auditing reports. Menu cycles, sensory characteristics of foods and portion sizes were all shown to contribute to the mealtime experience, but awareness of staff of their importance in contributing to person-centred care varied. Additionally, freely available variety of snacks outside mealtimes gave a degree of independence and autonomy for residents to eat when they wished. Dilemmas existed between encouraging healthy eating and responding to varied residents' food preferences, leading to uncertainties and conflict for staff. They felt obligated to provide good nutritional care, but at the same time they wanted to balance this with food preferences and deliver the food of choice to the older, frail adult. However, these often deviated from national healthy eating guidelines, but met with enhancing the mealtime experience and had the potential to improve the quality of life of the individual older person. This was complicated by the complexities of delivering food-service in an institutional setting. The most difficult challenge was delivering fruit and vegetables in an appropriate manner that met all residents' preferences, with diverse and polarising opinions from residents, who often disagreed about the accepted origin and methods of cooking. Hydration could be overlooked and tended to be a low priority for many carers in the present study, despite its direct role in health and cognitive function.

Task orientated approaches to mealtimes can impact on the psychological and sociological experiences of the food and drink experience. Traditionally and in particular the medical establishment have seen mealtimes as a requirement to meet the nutritional needs of the person, but meals mean more than just nutrients (Ducak and Keller 2011). The present study has identified how mealtimes are an opportunity to socialise, express ones autonomy and independence, dictate food preferences and gain an holistic sense of enjoyment in a dignified manner, yet these are not always met within the residential care setting. Identifying the enablers and barriers for delivering an exceptional mealtime experience is an important outcome to establish implications for the residential care sector. These are discussed in the following section.

7.2 Implications for Practice

Integration of the quantitative and qualitative data from the present study has highlighted contradictory and complementary results. This has helped to draw

further conclusions. Drawing on the findings of this study, as well as previous research available in the literature, it has been possible to indicate the barriers and enablers to delivering a holistic mealtime experience for older adults living in long-term residential care. From the present study it is apparent each of these influencers appears to make a contribution to the mealtime experience although it is unclear from this research the impact of each enabler and barrier.

7.2.1 Enablers

Socialisation

- *Staff* should consider supporting residents through dignified care to encourage socialisation, independence and autonomy. Awareness of staff to residents' attitudes of mealtimes are complex. These can be influenced by many external and personal factors that may influence their opinions and attitudes of the mealtime experience. Opportunities exist for family and friends to connect residents to the outside world but how they get involved in mealtimes was not observed in this study.
- *Training* is important to enhance staff knowledge to facilitate good nutritional care and improve the food and drink experience for residents. Different training techniques can reinforce differences in learning approaches and outcomes with experiential and reflective learning emphasising how to deliver dignified care at mealtimes. Fundamentally, each attendee learnt specific outcomes based on their own experiences and needs of their own work setting. A blended approach to train carers would be beneficial for them to understand how to deliver holistic person care to improve the mealtime experience.
- *Homely dining rooms* should be furnished with wall lights, books, games and ornaments on shelves with older furniture which have the potential to enhance the use of the dining room. Music playing can act to calm mealtimes particularly for those with cognitive impairment, but television acts as a distraction to eating and socialising for both residents and staff. Dining rooms often double up as activity rooms, but mealtimes should be obvious with dining tables laid in a homely manner with condiments available.
- *Family style dining* Residents valued eating as part of a family group despite their disabilities preventing socialisation and conversation. Independence and socialisation can be encouraged through family style serving of foods in serving dishes e.g. vegetables.

Responsibility of everyone

- *Dignified staff support* from all staff within the care home setting is central to ensure the mealtime experience is person-centred and accounts for residents' individuality by considering food preferences, cultural needs and life histories and encourages autonomy. Blending social skills with tasks to facilitate mealtimes has been shown to benefit this.
- *Co-creation of menus with and involvement of food-service staff* with every aspect of the mealtime experience. This has the potential to encourage residents to be actively involved with their own care and contribute to retaining a sense of autonomy.
- *Resident's autonomy* Residents should be given every opportunity to feel secure but autonomous in the decision-making process at mealtimes. This includes a continuum of support from staff, recognition by staff of friendship groups and where residents wish to eat and drink.

Person-centred care to deliver food choice

- *Regular, empathic contact* to promote communication channels that consider food preferences and choice. These should include care plans which require continuous recording and sharing of information and are critical to enable all staff to deliver person-centred care. Carers knowing residents life history, food preferences, portion sizes, preferred eating patterns and dining relationships contributed to a sense of security.
- *Staff supporting independence.* Residents should be encouraged to be autonomous in their decision-making about mealtimes including food and drink choices, social and dining preferences despite complex frailty issues.
- *Timely selection* of meal choice enhances resident autonomy and satisfies current food choice requirements. This should include snacks that are readily available 24 hours a day to reduce hunger during the long fast between tea time and breakfast. These can take various forms but residents are often reliant on the care home for all food and drink. Freely available snacks can encourage some autonomous decision-making about when to eat.
- *Appropriate portion sizes* that suit personal needs and hunger requirements.

- *Sensory characteristics* and presentation of food are important. Fruit and vegetables improve the appearance of plated food and contribute to the overall sensory appeal of the meal, but difficulties of eating these fruit and vegetables due to poor dentition and mouth health can mean they are not always eaten.
- *Anticipation* Mealtimes are an important component of the day in care homes that break monotony. Themed days, ad hoc different meals and outings helped to break up the cycle of normal mealtimes adding variety and stimulation to the day.

7.2.2 Barriers

Socialisation

- *Task-focused routines* that focus on meal delivery and feeding individuals detract from mealtimes. More emphasis is needed on person-centred care routines that blend socialisation with the task in hand that do encourage independence, autonomy, security and individual decision-making by residents.
- *Impassive and inconsiderate staff*, leading to a poor staff – resident relationship. Creating a positive ambience in the dining room that provides socialisation, security, support and assistance should be seen by staff as an important responsibility to delivering a dignified mealtime experience.
- *Focus on dining room* Staff not giving priority to residents eating in the dining room. A cyclical progression was seen to occur where residents do not use the dining room, more staff are needed to take meals to individuals in their own rooms and less are available to support the dining room activities. An unpopulated dining room, like an unpopular restaurant, could be entrenched in residents' thoughts as providing poor service and food quality.
- *Vulnerable residents* are at risk of feelings of vulnerability. Residents do not always choose to enter life in a care home and major events can influence the decision. Identifying and acknowledging friendship groups for dining room seating plans as well as knowing who residents do not want to sit with, is important to increase positive social relationships and positively impact on the dining environment.

- *Training* is required to implement change at all levels and ensure a whole team approach to provide a supportive environment in which to eat and drink. Dignified care at mealtimes is not always understood by staff and use of reflective and experiential training can contribute to enabling staff to become competent and skilled carers.

Responsibility of everyone

- *Not involving kitchen staff* in the direct care of residents. Compartmentalising departments within the care home meant food and drink delivery was less flexible to meeting resident requirements. Kitchen staff have a direct responsibility for delivering the mealtime experience, but were not always reported to be available to communicate and interact with the residents and understand their food and drink needs and preferences. Where cross team approaches were taken, residents' food preferences were considered and choice was delivered that met complex dietary requirements.
- *Poor staffing levels* at mealtimes mean staff are too busy to support residents eat and drink in a social, independent and autonomous manner. This can be balanced by ensuring all staff are on duty at mealtimes, which are recognised to be one of the busiest times of the day in the residential care home. Not dispensing medication at mealtimes has the potential to free staff to become fully immersed in the mealtime experience, as well as remove the barrier of medicalising mealtimes.
- *Insufficient support* for residents to eat and drink independently. A lack of continuum of care exists, whereby staff either assist residents to eat or leave them to eat alone. Being able to identify those in need of support requires experience and training. Further knowledge could raise confidence to deliver dignified care along a continuum to encourage autonomous eating behaviours of residents.
- *External agencies* such as CQC, food safety authorities and health and safety legislation are perceived to have a lack of flexibility in their understanding of older people living with complex health issues in residential care. Dilemmas exist between enforcing government guidelines and legislation versus encouraging independence and autonomy of residents.
- *Shift patterns* that require meals to be finished within a limited timeframe with unnecessary pressure on residents to finish meals.

- *Lack of support* from health professionals including GPs and dietitians left staff feeling vulnerable and unconfident to deal with undernutrition issues themselves.

Person centered care to deliver food choice

- *Unsatisfactory food-service* with meals not matching expectations and exacerbated by long waiting times. Meals are pivotal to the day in residential care homes. They are something to look forward to in what was often regarded as a monotonous day but did not always meet expectations. Poor quality food is recognised by residents and can negatively impact on mealtimes. Residents had very polarising views of fruit and vegetables but noticed if poor quality was used. Diverse opinions of whether they were over cooked, under cooked, fresh or frozen stemmed from personal beliefs and life histories. This adds complexity to mealtime delivery for staff but good quality ingredients were recognised and could help balance these diverse attitudes.
- *Not sharing information* about individual food and drink preferences, socialisation patterns and where residents wish to eat meals. These should be documented in up-to-date care plans that are continually shared across all staff teams. As new information becomes available, it should be documented in these care plans and shared with all existing and new staff.
- *Limited food choice and availability.* Menu plans were reported to offer at least two choices at each meal, but often choice was limited to one item, or even nothing for those individuals with specific dietary needs; for example type 2 diabetes. There appeared to be a lack of understanding by staff on how to deliver choice to those with complex dietary requirements and further training is needed to reduce this confusion.
- *Irregular prompting* of residents to drink and low priority of carers for drinks provision. Constant prompting and provision of drinks of choice is required to limit the effect of dehydration but was not always seen in this study.

7.3 Implications for policy makers

The holistic mealtime experience is an important component of care home life for residents. The 'Mealcare' model in Figure 31 shows the interconnection of the

different themes elucidated in the present research. Undoubtedly the factors work together, to maximise the enjoyment of eating and drinking for older residents. Embedding these within a health and social care system has the potential to improve quality of life and wellbeing of individuals. Training staff is an important aspect that is highlighted in the key findings below, but it has been identified that different education approaches can deliver different learning outcomes for individuals. The wide scope of the mealtime experience gives an opportunity to develop an education toolkit that will help develop all care home staff to understand the mealtime experience fully. Importantly the following should be considered:

Responsibility of everyone: Staff understanding of the holistic mealtime experience is essential to facilitate independent and autonomous residents and creating a harmonious approach to food and drink delivery. The pedagogical techniques used in this study were shown to be effective in improving the mealtime experience, but had differing results. The in class enabled facts to be learnt, but the experiential, reflective learning gave an opportunity for staff to truly understand how to deliver a dignified mealtime experience that considered the wellbeing of residents and contribute to improving quality of life. A wide range of education tools and techniques could enable staff to balance and respect residents' wishes of where to eat in order to balance independence, autonomy, dignity and socialisation.

Health professionals were relied on by care staff for information to fill gaps in their own knowledge. It is essential health professionals have adequate knowledge about the overall mealtime experience, to ensure holistic care that improves quality of life and wellbeing of residents. Continuous professional development of existing professionals such as GP's and district nurses would enable their knowledge to further the mealtime experience. Dietitians are seen as a valuable source of information too, but their time is limited, and the opportunity exists for registered nutritionists to be involved in training and provide advice to the social care professionals. Registered nutritionists are educated less in the medical model of nutritional care, but have greater knowledge of the holistic influence of food and drink in people's lives and would be in a better situation to communicate the overall mealtime experience to health and social care staff.

Person-centred care to deliver food choice: Mealtimes are an important part of residents' daily activity and contribute to their wellbeing and quality of life. Whilst screening for undernutrition remains important, residents should be given every opportunity to enjoy food and drink whenever and wherever they want it. The

psychosocial elements of the mealtime experience are as important as food-service. Care homes should be encouraged to offer mealtimes in a variety of settings and extend the conventional food-service times, to ensure deliver when residents want to eat. Focus on ensuring a range of food and drink are available, that offer flexibility and food preferences, more akin to what was eaten at home and encourage resident dignity, autonomy and wellbeing. Varying appetites, life histories, frailty problems, attitudes to food and drink all affect choice and preferences. The mealtime experience should focus on complete person-centred care and move away from the traditional institutional approach of set prechosen meals. This should incorporate a whole team approach including food-service teams, who should be aware they too are involved with the care of the individual as providing food and drink.

7.4 Recommendations for Further Research

This research has highlighted the psychosocial and technical contributors to the mealtime experience, alongside the education and training that contribute to the overall food and drink delivery and the complexity of the mealtime experience for older people living in long-term residential care. The holistic factors of psychosocial influences as well as the technical aspects of delivering food and drink discussed in this thesis have the potential to contribute to more than just the mealtime experience. This study has undertaken an in depth investigation into both staff and resident attitudes to mealtimes through qualitative interviews and observations as well as the quantitative questionnaires. It has uncovered aspects of the mealtime experience that require further understanding including developing the concepts of what make a secure, independent and autonomous culture in a care home environment at mealtimes.

The themes from the present study could be used to develop a validated questionnaire in order to understand a larger cohort of both staff and resident participants on the meaning of home in the communal dining setting, co-creation of menus and independent dignified care at mealtimes, in order to identify gaps in meeting resident expectations. The present study focused on one small area in England. Cultural and ethnic diversity was limited within the participating care homes, and extending research to a larger geographical area for a greater understanding of mealtimes care homes across the UK.

It was outside the scope of this study to understand how these contributors of the holistic mealtime experience can impact, using quantitative measures, on wellbeing and quality of life of older residents nor does it make any effort to understand how they contribute to reducing risk of undernutrition for those living in residential care. Given the challenges of undernutrition, poor quality of life and wellbeing of individuals in residential care, the costs to health and social care services as well as to frailty and morbidity of individuals that were discussed in chapter 2 there is a pressing need to develop this research further. Historically there has been a lack of high quality research that review singular aspects of the mealtime experience and none attempt to evaluate the full holistic delivery of food and drink in care homes and the impact on residents. The literature review and discussion have highlighted the lack of large intervention studies that fully evaluate all components of the mealtime experience and their impact on food and drink intake, undernutrition risk as well as quality of life and wellbeing. Pulling together the concepts of the holistic mealtime experience identified in the present research into further research as a quantitative intervention study, ideally a randomised control trial, to assess risk of undernutrition through food and drink consumption diaries and using appropriate quantification tools such as 'MUST' as well as measuring wellbeing and quality of life scores could strengthen the argument for improved meal time delivery services in care homes and help to develop further training.

The implication for increased financial costs for improving the holistic mealtime experience was not part of the present study. Choosing meals at point of delivery was popular with residents and allowed them complete control over food choice. There has been no comparison of cost and effect on food wastage between the different times of food choice being made. Further quantitative investigation of cost and wastage through intervention studies that focus on the holistic mealtime experience using recognised health economic methods would give greater understanding of these aspects of meal delivery for advice to be given to businesses as well enlighten any benefits to health and social care systems. Food based activities have been highlighted as adding variety to menus and diversity to monotonous routines. Themed meals were popular, but how these impact on food and drink consumption and improve the wellbeing of residents as well as the financial cost to long-term care facilities requires further research. Quantitative methods of measuring food and drink intake alongside quality of life measures in intervention studies that included themed meals and food based activities as well as

the financial cost of implementing such activities would build quantify and explain benefits that exist to businesses as well as health and social care systems.

There is also an opportunity to further understand the concept of socialisation and develop it as a component of the holistic mealtime experience. Family and friends have a role as visitors but were rarely present at mealtimes. Opportunities exist for visitors to become more involved with mealtimes but this was not observed in this study and has not been explored well in by other researchers. How visitors could add value and contribute to the mealtime experience and whether they can provide effective support or opportunities to socialise requires further understanding. Additionally, the impact these visitors have on those residents who do not have any visitors. More research is needed to understand why visitors were not involved with meals, and break down barriers that may exist that currently discourage visitors in being proactive in supporting the mealtime experience. Further qualitative studies using interviews and focus groups could help to understand these barriers and attitudes of visitors.

Food service, portion sizes and motivation to choose food needs further understanding to be able to influence cultural changes within homes, but also contribute to expectations of auditor requirements. The consequent impact on older adults in residential care homes of choosing food and drink of preference, rather than following national guidelines, originally designed for a younger population of 18-65 year olds, requires further understanding and communicated to national agencies. Undernutrition is not recognised by residents and further qualitative work to understand motivations to eat, choose specific foods and the influence of peers in the residential care home setting could identify why this is.

7.5 Strengths and Limitations of this study

7.5.1 Strengths

By exploring the research aim and objectives, from the perspective of both staff and residents, using mixed methods, to find similarities and contradictions in knowledge and attitudes, this study has allowed new knowledge to evolve. The pragmatic philosophical approach enabled a practical way of understanding the mealtime experience from the perspective of both staff and residents. The use of observations and interviews has added value to the numbers elicited from the

questionnaire. Additionally, collecting data from a number of different sources has allowed for the weakness in poor response rates of the questionnaire.

Convergence and collaboration of the findings in this mixed methods approach allowed the quantitative data to enhance understanding of the qualitative data and enable conclusions to be drawn that fully understand the mealtime experience from the point of view of staff and residents and inform practice.

7.5.2 Limitations

The participants will have introduced an element of bias. Residents living in a care home are inevitably vulnerable, due to problems with age related frailty and have limited capacity to be able to care for themselves, which may or may not impact on mealtimes. For them to add meaningful dialogue to the research, cognitive capacity was required for the interviews. Therefore, the choice of who to interview was deferred to the manager of the care home, who had detailed knowledge of each resident. This, in itself, will have added an element of bias to the data collection. Managers may have chosen participants for a number of reasons, their compliance with the system, their willingness to talk and their likelihood to be uncritical of the food and drink experience. It was noted on a number of occasions, managers chose residents who did not get many or any visitors, which could impact on their opinions, distorting the findings, to show a false level of positivity or negativity amongst residents. Despite the possible bias of resident selection, it was evident from the discourse of interviews in this study, that some residents were willing to voice contrasting opinions and observations which helped to corroborate interview findings.

The other participants in this research project were care staff who all volunteered to attend one of two training programmes. The commitment of time or money and their presence on these courses indicate a willingness to improve the standards of the dignity or the food and drink experience in the care home. Involvement with the research was voluntary and due to the selection process, underperforming and poor care homes were not involved with this study.

The role of the researcher will have affected the outcome of the present study. Assumptions and knowledge will play a role in the findings. Efforts were made to reduce these and are accounted for in the method section in chapter 4, but as sole researcher on this doctoral journey, there has to be an awareness that perspectives and worldviews of the researcher would affect the way the data was viewed.

The small sample size for the quantitative data meant data analysis was limited to basic statistical tests that added additional insight rather than being able to draw conclusions from p values and prove a statistical hypothesis. Respondents are known to react to the research instrument (Bowling 2009). It is a social phenomenon that respondents desire to be helpful when responding to surveys. They wish to be viewed positively and give answers that fit their ideal. They will over report their worthy acts and downplay failings. The questionnaire used in this research was based on the findings of a thorough, but not systematic literature review and included known aspects of the mealtime experience. Care staff may have reported their behaviour more positively due to these external variables. Likert scales are not without their disadvantages. There is a tendency for individuals to either use the extreme ends or the middle points due to differences in their response styles based on external experiences (Bowling 2009). In spite of the limitations, this study adds to the overall knowledge of the mealtime experience, providing a theoretical framework and enablers and barriers for good mealtime provision in residential social care settings.

8 References

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Appendix 1

Summary of key literature sources used to develop the conceptual framework (pre 2014)

Study reference Author, date, journal	Study design	Number of Participants	Length of intervention (if any)	Population	Intervention/measures	Outcomes
Appleton 2009 Appetite 52 (1) 161-165	Quantitative experimental	29	Four separate lunch time meals	Residents in 5 residential care homes in Northern Ireland	Each resident ate two meals with sauce and two meals without sauce. Series of quantitative measures with statistical analysis taken including energy and protein intake	Addition of sauce to meals can increase food intake by 32g \pm 20g energy consumption by a mean of 50kJ per meal (p=0.04) but protein intake changed insignificantly (mean 2kJ p=0.02)
Bamford et al 2012 Implementation Science 7 106	Qualitative Normalisation Process Theory	112	None	Staff of 5 care homes in north of England	Semi structured Interviews, informal discussions and Observation - To understand the facilitators and barriers to implementation for staff of the FSA nutrition and food guidelines for care homes	Staff did not understand the guidelines through lack of nutrition knowledge and understanding and did not see relevance to older adults.

Barnes et al 2013 Health and Social Care in the Community 21 (4) 442-450	Qualitative Explorative observational study	68	None	Residents observation of 7 dining setting in 4 care homes for older adults. England	To capture residents views and describe individual residents experiences of meal times through observations and interviews	Differences in serving style were observed and family style rather than pre plated seem to promote greater communication and socialising at the table.
Bocsko & Mckeen 2010 LTL magazine 38-40	Quantitative Intervention – between subject	60	8 weeks – 5 days a week only	Residents in residential home care. USA	Effect of flavour-enhanced (spice) sprinkled over lunch Meals on body weight and meal satisfaction.	Flavour enhancers improve meal satisfaction but not body weight possibly due to short time of intervention and only 5 days a week one meal only
Borbasi et al 2013 Journal of Clinical Nursing, 22, 881–889	Qualitative Case studies	Not stated	None	Staff working in 21 different residential care units. England	To demonstrate the usefulness of a theoretical framework for humanising care of dementia patients through interviews, surveys and journals	Eight dimensions to improve humanisation of care
Carrier et al 2009 J Nutrition, Health and Ageing 13 (6) 565-570	Mixed methods	395	None	Residents in 39 care homes. Canada	To investigate how dining experiences affect the quality of life of older care residents through semi structured interviews with	Various aspects of the dining experience can improve quality of life for residents. Focus should be on individual personal care.

					residents, questionnaires with carers, information from other staff and medical records	
Chan et al 2012 Canadian Nursing Home 23 (4) 26-31	Qualitative interviews post intervention	12	None stated	Older residents in 1 care centre in Edmonton, Canada	To investigate whether improvements to the dining facility have improved the meal experience for residents and the changes to working practice for staff are reflected in these improvements through interviews	Residents seem to like the improvements and staff changes to practice had been well received.
Chang & Lin 2005 Journal of Clinical Nursing, 14, 1185–1192	Quantitative quasi-experimental study	67	3 hours of class and 1 hour of experiential training	Nursing assistants in care homes. Taiwan	Training programme that included feeding of residents. Measures included staff knowledge and mealtime length	Changed staff knowledge in how to feed older adults with feeding difficulties There was an increase in eating time allowed for residents and greater understanding of how to identify when assistance at mealtimes was needed, although no increase in food intake

Chisholm et al 2011 Nutrition & Dietetics 68 161-166	Qualitative	50	None	50 managers in care homes for older adults. New Zealand	To investigate food service, menu and meals at older care homes to understand the promoters and barriers to optimum nutrition through questionnaire and mealtime observations	Meal provision was deemed adequate in 90% of care homes. Most were on 4 week menu cycle but choice could be limited as well as availability of protein rich meals. Lack of training was highlighted
Cloutier Fisher & Harvey 2009 J Env Psychology 29 (2) 246-255	Qualitative – interpretive	25	None	Older adults over 55 years either free living or in care homes. Canada	To explore the relationship of older people and their communities	There is an understanding of how the environment affects the concept of home and the community
Crogan et al 2004 J Gerontolical Nursing 30 (2) 29-36	Qualitative – Interpretive phenomenology	9	None	Nursing home residents – varying ages not all older. USA	To understand the meaning of food to residents in a nursing home in relation to home food and food service and identify ways to improve the food and food service in nursing homes. Semi structured interviews	Three rubriks were identified: Mimicking home Making choices Tailoring the system

Curle and Keller 2010 Eur J of Ageing 7 189-200	Qualitative Observational	100	None	Residents in residential home 14 lunch time periods 63 different table settings. Canada	To observe the effect of social interaction occurring at mealtimes in an older residential home	Social interactions varied across the tables and depended on residents and staff.
Dahl-Eide et al 2012 Nordic Journal of Nursing Research & Clinical Studies 33 (1) 20-24	Quantitative – observational	342	None	Older residents who had lived in 19 residential care homes for longer than 12 months. Norway	To examine the duration of overnight fast and the significance of having an overnight fast below or above 11 hrs with respect to nutritional status among older nursing home residents. Nutritional intake BMI	Overnight fast typically exceeded 11 hours but length of overnight fast did not relate to nutritional status
Dahlin & Ivanoff 2007 Scandinavian Journal of Occupational Therapy. 14 25-32	Qualitative - Grounded theory	40	None	Older men and women aged 80-89. Sweden	To understand the meaning of home for very older through interviews	Meaning of home means security and freedom

Ducack & Keller 2011 Canadian J of Dietetic Practice and Research 72 (2) e126-e133	Qualitative – exploratory	40	None	Nutrition managers of residential care homes and 5 dietitians. Canada	Investigate factors influencing menu planning in residential care homes and how they can be made more resident centred by telephone interviews of care home managers	Various difficulties arise from menu planning in these type of institutions including lack of resources and the increased burden of meeting different food preferences and therapeutic diets.
Dunn & Moore 2014 Journal of Health Psychology 1–9	Qualitative – thematic analysis	5	None	Care home staff. England	To understand their perceptions of ‘caring for’ residents’ nutritional needs through interviews	Staff shortages Routines Tasks Impact on person-centred care
Durkin et al 2014 Journal of Applied Gerontology 33(5) 586–602	Mixed - Questionnaire and observations	323	None	Older residents in 6 care facilities with average age of 82 years. USA	To understand: 1. The frequency of family visits during mealtime 2. whether the presence of family during meals had an impact on the quality of feeding assistance care and resident intake.	Residents get infrequent visitors but when they do visit at mealtimes they are able to assist residents eat

DuToit & Surr 2011 WFOT Bulletin 63 58-54	Qualitative - Observation	5	None	Residents in each of 3 different residential care facilities. South Africa	Use of DCM observational tool to understand quality of care	Lack of personal fulfilment can impact on quality of life
Edvardsson et al 2008 Journal of Gerontological Nursing. 34, (6) 32-40	Qualitative – content analysis	112	None	Residents, family and staff in 4 settings including 1 long term care facility. Sweden	What constitutes a therapeutic environment - narrative interviews	Environment can significantly affect the long term care of older people. Co-operation of care including at mealtimes contributes to wellbeing of resident
Essed et al 2007 Appetite.48 (1) 29-36	Quantitative single blind randomized parallel study	83	16 weeks	4 groups of older adults living in 3 residential homes for longer than 3 months. Netherlands. Mean age 85 years	3 intervention groups plus a control group – 1. MSG. 2. Flavour. 3. Flavour plus MSG group All sprinkled on food. Various anthropometric and food satisfaction measures as well as energy intake	Adding MSG and flavours to meat dishes does not improve energy intake or weight

Essed et al 2009 Journal of Nutrition, Health and Ageing.13 (9) 769-775	Quantitative – single blind cross over study	53	4 weeks	39 older (>65 years) and 29 younger (students) people in laboratory. Netherlands	To understand if adding different concentrations of MSG and flavours added to potato and spinach dishes improves energy intake through range of anthropometric and sensory measures	MSG at levels included does not enhance energy intake or appeal of foods.
Fange & Dahlin-Ivanoff	Qualitative – Grounded theory	80	None	Older adults aged between 80- 89 years. Sweden	To explore health in relation to the home as experienced by very old, single living.	Activity and participation are important to living
Feldman et al 2011 Perspectives in Public Health 131 (6) 267- 274	Quantitative – Factorial design	150	3 months	Older adults over 60 years living in 3 assisted living residences USA	Investigate whether menu formats, branding and nutritional labelling can influence healthier food choices of older free living	Changing the format and highlighting healthier options in strategic positions on menu can increase healthier food choices. Use of nutritional labelling does not seem to influence.
Franklin et al 2006 Nursing Ethics 13 (2) 130-146	Qualitative Interviews	12	None	Older people aged over 85 years living in 2 care homes. Sweden	The aim of the study was to explore the views on dignity at the end of life gathered using semi structured interviews	Three themes were identified(1) the unrecognizable body; (2) fragility and dependency; and (3) inner strength and a sense of coherence.

Godfrey et al 2012 Int J of Nursing Studies 49 1200-1211	Qualitative – multiple methods	21	None	Older care residents and hospital patients, staff and friends and family. UK	To understand the complex issues around hydration and hydration care of older people through interviews and focus groups	Older people felt the social aspect of drinking is often ignored instead hydration was seen as more of a medical need to drink. Health care professionals employed a number of strategies to encourage drinking.
Hoffman 2008 Annals of Nutrition Metabolism 52(S1):20–24	Qualitative Case studies	4	None	Older people in different care homes. Germany	To understand how food can influence quality of life	Food choice is important to increase nutritional intake
Hubbard et al 2003 Aging & Society, 23(1), 99-114.	Qualitative Ethnographic observations	None stated	None	Residents in four different care settings in Scotland	To understand social relationships in institutional care settings.	Furthers understanding of how residents social interact in the care setting
Hung & Chaudbury 2011 Journal of Aging Studies 25, 1–12	Qualitative Ethnography	20	None	Resident and staff in two care homes. Canada	Aims to understand mealtimes that support or undermine personhood	Eight themes identified - outpacing/relaxed pace, withholding/holding, stimulation, disrespect respect, invalidation/validation, distancing/connecting, disempowerment/ empowerment, and ignoring/inclusion.

Keller et al 2013 Journal of Applied Gerontology 32(6) 687– 707	Qualitative Observation	None stated	1 year	Mealtimes of two care homes. Canada	Development and Reliability of the Mealtime Social Interaction Measure for Long-Term Care	Valid tool proven to understand frequency and nature of social interactions
Kenkmann et al 2010 BMC Geriatrics 10:28	Pragmatic mixed method between subject Intervention	63	24 months	Older residents across 6 care homes. UK	Effect of Intervention to improve dining room, food choice (meal options from 2 to 3) and availability on health indicators of residents of 3 care homes with 3 care homes acting as a control. N for different aspects of study varied - 2 year length some drop outs over time	The changes were popular with the residents but did not improve health indicators despite a slight decrease of falls (24% but not significant in intervention homes). No changes in weight (p=0.49). No significant changes to enjoyment of food (p=0.237)
Kofod et al 2004 Scand J Caring Sci 18, 128– 134	Qualitative Ethnography	19	None	Older adults living in nursing homes with mean age of 82 years. Denmark	The aim of this work is to test if newer nursing homes in Denmark (i) residents appreciate the meal situation in these nursing homes and	Degree of improvement in the newer nursing homes but not significant. Failed to address limitations

					(ii) nutritional status of the residents is improved in this type of nursing home	
Kofod & Birkemose 2012 Food, Culture & Society 15 (4) 665-678	Qualitative – longitudinal	16	None	Older residents making transition to care home. Denmark	How meals are used to build community among the institutionalized older in Denmark	Various barriers to create a cosy community including staff discussions of work-related issues, social hierarchy among the older residents, lack of basic social competency, and residents' protests against institutional practices. Failed to address ethical issues
Leydon & Dahl 2008 Journal of Health Services Research & Policy 13 (S1) 25–29	Mixed methods	None stated	None	29 care homes. Canada	Implementation of a project to improve nutritional status of residents. BMI recorded and nutritional value of meals	Causes of malnutrition multifactorial and staff play a large role in implementing
Mahadevan et al 2013 J Human nutrition and dietetics 27 (2) 152-161	Qualitative focus groups	38	None	Over 65 years in 4 assisted living facilities. USA	To identify the effect of the meal experience of service users quality of life	Findings show food choice; socialising; interaction with other people can impact on the overall sense of wellbeing during mealtimes.

Mathey et al 2001 Preventive Medicine 32, 416–423	Quantitative A parallel group intervention study	22 completing the trial	1 year	Residents from 4 wards in one care home. Netherlands. Over 65 years	2 control (n=10) + 2 intervention (n= 12) groups Improvement of ambiance focused on three life points: (1) physical environment and atmosphere of the Food intake in nursing homes depends to a large dining room, (2) food service, (3) organization of the extent on the quality of the food service system.. nursing staff assistance.	The improvements made positively impacted on weight gain 3.3 kg , quality of life and health (biochemical markers inc. haemoglobin) remained static of the intervention group and declined in control group.
Matson & Gallant 2012 Canadian Nursing Home 23 (3) 19-23	Quantitative Intervention	Not stated	2 weeks	43 bed residential home. Canada	Introduction of restaurant style breakfast over longer period in central location measured through a resident survey	Staff resistance experienced but residents liked the social interaction and increased food choice

Merrell et al 2012 Health and Social Care in the Community (2012) 20(2), 208–215	Qualitative Multi-method	45	None	Residents, families and managers in two care homes. Wales	How staff assessed nutritional need through Semi structured interviews - Focus groups - observation	Staff aimed to deliver person-centred care but did not know personal preferences of food and did not undertake undernutrition screening.
Murphy 2007 J Clinical nursing 16 873-884	Mixed methods Questionnaire and interview	498	None	Nurses working in long term care settings. Ireland	Factors facilitating or hindering high quality nursing care in long term care settings in Ireland – mixed method approach	Facilitators inc.: Promote independence and autonomy Homelike social environment Person-centred care Knowledgeable skilled staff Lack of time; resistance to change and bound by routine act as barriers
Nakrem et al 2011 International Journal of Older People Nursing. 8, 216–225	Qualitative Descriptive exploratory design	15	None	Residents over 65 years in four care homes. Norway	To describe residents' experiences of living in a nursing home related to quality of care via interviews	Four themes around personhood and meaningful activity
Nijs et al 2006 BMJ Online BMJ, 332 (1180).	Quantitative Randomised cluster trial	178	6 months	Older residents with a mean age of 77 years in 5 nursing	To assess effect of family style mealtimes on quality of life, physical performance, body weight on	Intervention group included changes to table dressing, self-serve at table, staff and resident protocols versus control group of pre plated foods. The

				homes. Netherlands	residents without dementia	intervention showed a degree of change for all three indicators.
Nordin et al 2003 Experimental Aging Research, 29 (3) 371–381	Quantitative factorial design	60	None	Older men and women and younger cohort	To investigate the effects of taste substance and age on taste intensity discrimination of salt and citric acid	Age affects taste perception of salt and acid
Oswald et al 2006 Journal of Environmental Psychology, 26 (3)187-201.	Quantitative - questionnaire	1223	None	Older adults aged 80–89 years across EU.	Use of a survey to understand and measure perceived housing domains in old age.	Four component model of perceived housing proposed
Palacios-Cena, et al, 2013. Geriatrics & Gerontology International, 13 (2), 482- 489.	Qualitative phenomenological	26	None	Care home residents with mean age of 83 years. Spain	Purposeful and theoretical sampling. Unstructured and semi- structured interviews. To understand significance of mealtimes	Three main themes emerge: <ul style="list-style-type: none"> • Timing of meals • Table allocation • The meals themselves
Pearson et al 2003 Journal of Gerontological Nursing, 29 (6) 40-47	Qualitative - ethnography	40 residents and 31 staff	None	Older residents and staff in 10 nursing homes in Australia	The social and functional context of meal service in nursing homes was examined through interviews	Important themes for mealtimes - maintaining personal identity, assisting individuals to eat, and maintaining interaction

Pelletier 2005 Journal of Gerontological Nursing.31 (7) 5-10	Qualitative – factor analysis	20	None	Care staff in care homes. USA	To understand feeding beliefs of staff	“Social feeders” believe feeding is a time to socialize with residents and “technical feeders” believe providing adequate nutrition is the main goal when feeding.
Phenice & Griffore 2013 Educational Gerontology, 39 (9) 741–749	Qualitative	11	None	Older residents in a care home. USA	Explores the roles and functions of object memories in the lives of elders in a residential home through semi – structured interviews	Personal objects are important for residents in care homes
Philpin 2011 Nursing Older People 23 (4) 24-30	Qualitative - Multi-method	35	None	Staff and residents of 2 residential care homes. Wales	Investigate factors affecting nutritional care in two separate care homes. Focus groups with staff and individual interviews with residents Observations meal preparation	Study highlights the importance of: spatial environment in dining room. Social meaning of meals. Normality of social interaction.
Philpin et al 2014 Ageing and Society 34 (5) 753 - 789	Qualitative - Ethnography	29	None	Staff and residents of 2 residential care homes. Wales	Factors affecting nutritional care in residential homes. Focus groups with staff and individual interviews with residents	Various environmental influences of mealtimes including layout, location and ambience

					Observations meal preparation	
Simmons & Shnelle 2006 The American Geriatrics Society. 54 (6) 919-924	Quantitative measurements	91	2 day observation of activity	Long stay residents in 6 care homes. USA	To describe the staff time requirements to provide feeding assistance	Staff time to provide feeding assistance can be under estimated
Simmons et al 2010 The Journal of Nutrition, Health & Aging 14 (5) 367-372	Quantitative Intervention	63	6 weeks	Residents in 3 care homes. USA	To determine the cost effectiveness of supplements relative to offering residents' snack foods and fluids between meals to increase caloric intake	By giving residents a choice of a variety of foods and fluids twice per day may be a more effective nutrition intervention than oral liquid nutrition supplementation
Simmons et al 2011 Journal of Applied Gerontology, 32 (6), 669-68	Quantitative - observation	200	3 months	2 long stay residents with average age 76 years in care homes in USA	To identify quality of feeding assistance care through staff ability to record and assist residents at mealtimes	Multiple aspects of mealtimes need improvement but nurse skills and training contribute to ability to record and assist residents
Shenk et al 2004 Journal Of Aging Studies, 18, 157-169.	Qualitative Interviews	4	None	Older women. USA	Themes that understand why home and possessions are important	Everyone had their own important possessions based on life histories

Suominen et al 2007 Journal of Clinical Nutrition 61, 1226–1232	Quantitative - Pre-experimental	28	12 months	Care staff in residential homes in Finland	To develop and evaluate education of staff on nutritional intake of residents	Education can improve food intake
Sydner & Felstrom 2005 Human Nutrition and Dietetics 18 45–52	Qualitative - Observation	None	None	4 care homes in urban districts. Sweden	To study how organizational structure and staff members routines and actions influence activities related to food and meals in different caring context	Individual's living arrangements, and the social organization around them shape meal time arrangements, not individual needs
Thomas et al (2013) Contemporary Nurse 45(2): 244–254	Qualitative - reality-oriented exploratory qualitative	6	None	Residents in one care home in Australia	Semi structure interviews perceptions and experiences of social interaction	Involvement in leisure activities promotes socialisation. Lack of social contact is influence by poor health, family, transportation and geography
Toffinello et al 2013 Clinical Interventions in Ageing 8 167-174	Quantitative – pre experimental	96	None	Free living older adults and long term hospital patients. Italy	Quantitative – investigate taste perception in free living older adults with taste perception in hospitalised patients using taste recognition thresholds - Survey,	Hospital patients significantly less able to taste citric acid than free living. Positive correlation with age, poly-pharmacy and poor nutrition status.

					health and wellbeing and nutritional status recorded	
Ullrich et al 2011 Journal of Clinical Nursing 20 1339 - 1348	Qualitative – Action research	21	None	Staff members of residential care home. Australia	Improve nutritional care and mealtime experience by enabling nurses to change practice and mealtime environment	Nutritional care was changed by altering working practices and enabling the use of protected meal times.
Westergren 2010 Food and Nutrition Research. 53	Quantitative Intervention	1526	3 hours	Residents of nursing homes in Sweden	To investigate if study circles and policy documents improve the precision in nutritional care and decrease the prevalence of low or high body mass index (BMI).	Protein –energy enriched food can reduce under nutrition and is more likely to be used when staff have received training on its use
Wikby et al 2009 Scand J Caring Sci; 23; 421–430	Quantitative Quasi experimental	115	4 months	Residents of care homes with mean age 85 years. Sweden	To test the hypothesis that education provided to staff regarding nutritional needs and individualizing nutritional care will improve the nutritional	Staff training can improve energy intake

					status and functional capacity of older people newly admitted to resident homes.	
Winterburn 2009 Nursing Older People 21 (3) 34-37	Qualitative Interviews	Not stated	None	Catering staff at older residents in care homes	Aim to identify how residents of care homes exercise food choice and control over food intake	Three routes identified to improve: Supply and delivery of food Serving of food Consumption of food Nutritional training also cited as possible route for improvement.
Wong et al 2008 The Journal of Nutrition, Health & Aging 12 (5)	Mixed	Phase 1 = 23, 2 = 40, 3 = 7, 4 = 28	63 weeks	22 bed ward but designed to emulate a rest home for short stay residents	How to improve nutritional care for long term residents by increasing grazing, volunteers at mealtimes and music through observation followed by three fold interventions	BMI did increase over time of intervention but varied depending on which phase was being implement. Music saw an increase in average energy intake of 129kcal, BMI increase of 0.39kg/m ² when played at lunch and dinner time but not breakfast. Grazing increased BMI by 0.37kg/m ²

Literature Reviews

Study reference Author, date, journal	Review type	Search criteria	Measures	Outcomes
Arvanitakis et al 2008 Clinical Nutrition 27 481-488	Nutrition in Care homes and home care: How to implement adequate strategies (Report of the Brussels Forum – 22 & 23 November 2007	Report from EU forum of member states	Undernutrition is a problem in care homes and care settings. This forum looked at the various scientific reports presented and this paper reviews these in relationship to the literature	Malnutrition in the care setting between 15% and 65%. Measures to prevent this are discussed which include: understanding of causes; the risks and costs and improving nutritional assessment and ambience at mealtimes.
Abbot et al 2013 Ageing Research Reviews 12 967-981	Systematic review – variety of studies but not case studies	Residential care homes with older over 65 years. Nutritional outcome measured	Changes to nutritional outcome of mealtime interventions inc: Changes to food service Food improvement Dining environment alteration Staff training Feeding assistance	Meta-analysis showed no improvement to dietary intake in intervention Observation showed mixed results with interventions
Begum & Johnson 2010 The European e-journal of Clinical Nutrition and Metabolism. 5. e47-e53.	Narrative literature review	Number of sub headings regarding dehydration – no formal literature search documented	To understand the literature on dehydration in the institutionalized older.	Detection of dehydration is important and number of strategies reviewed

Bradshaw et al 2012 Age and Aging 41 429-440	Systematic qualitative review	Studies that contributed to care home life	Investigate life in a care home and how to improve quality of life	Four key themes emerged: Connectedness with others Caring practices Acceptance of situation Homelike environment
Edwards & Gustaffson 2008 Journal of Foodservice, 19 (1) 22–34	Review of literature	No direct search strategy	Various aspects considered including interior variables, background music and noise, and odour; layout and design variables, table layout and seating; and human variables, density and crowding, and social facilitation, which contribute towards the room's atmosphere	Understanding of contributing factors to dining room environment
Ferry 2005 Nutrition Review 63 (6) S22 – S29	Literature review	Various subheadings	Understanding of dehydration in older people	Overview of factors involving dehydration in older people

Koeler & Leonhauser 2008 Annals of nutrition metabolism. 52 (S1) 15-19	Literature review	Socioeconomic, psychosocial and cultural search terms	Effect of ageing on mealtimes	Inadequate attention has been given to cultural factors. Research into the reasons for nutrition behaviour and food choice is of key importance for the future.
Lee et al Journal of Nursing and Healthcare of Chronic Illness 1, 116–125	Systematic Literature review 1994-2008	Range of terms based on quality of life	To integrate the research evidence on quality of life of older people living in a residential care home setting	Programs that aim to de- institutionalise the residential care home settings are important to the enhancement of residential care services.
Liu et al 2014 International Journal of Nursing Studies 51 14–2	Systematic literature review	Key words to do with mealtimes	To evaluate the effects of interventions on mealtime difficulties in older adults	Variety of interventions reviewed
Mallett et al 2004 The Sociological Review 62-89	Review of the literature	Number of different sub headings	Bringing of ideas of what home is	Critical discussion of what is home in line with the review of the literature
Moloney et al 2010 Research in Gerontological Nursing 3 (4) 291-307	Literature review	Search terms related to home	Understanding of what home is in the residential capacity	Critical discussion of what home is in line with mealtimes and the literature

Pol Grevelink et al 2012 International Journal Geriatric Psychiatry 27 219–229.	Literature review	Person-centred search terms	To understand about job satisfaction of caregivers who deliver person- centred care in nursing homes.	Person-centred care can increase job satisfaction. This is more effective in small scale institutions
Reimer & Keller 2009 J of Nutrition for the Older 28 327-347	Review of the literature over past 20 years	Mealtime experiences and feeding assistance in care homes	Examine how meal time care practices can become more person- centred	Four themes discussed: Providing choices and preferences Supporting independence Showing respect Promoting social interaction Also need for staff training and education
Salva et al 2009 J Of Nutrition Health and Ageing 13 (6) 475-483	Review of MEDLINE	Recommendations of task force	Recommendations of nutrition and ageing by European taskforce.	Assessment and comprehensive review of dietary and environmental improvements
Vesnaver & Keller 2011 J Nutrition in Gerontology and- Geriatrics 30:2-23	Review and summary of available literature	Research conducted on older adults and eating experience	Review of social influences and eating behaviour in later life for free living adults.	Activity of eating together can significantly influence eating behaviour and eating alone negatively impact food intake. People living alone are most at risk and the need for a wide social network is reinforced.

Weekes et al 2009 J Human Nutrition & Dietetics 22 324-335	Systematic review	randomised controlled trials (RCTs), controlled trials, observational studies and audits in any healthcare setting	To establish the efficacy for the evidence of interventions that might result in improvements of nutritional and clinical care and cost.	Included: Screening Assessment and nutrition planning Meeting individual needs Catering provision Dining environment Feeding assistance Staff training
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Appendix 2

Summary of key literature examined 2014 – 2018

Study reference Author, date, journal	Study design	Number of Participants	Length of intervention (if any)	Population	Intervention/measures	Outcomes
Abbey et al 2015 Nutrients. S 7 (9) 7580-7592	Quantitative	3 studies Menus from res homes n = 247 Menu analysis n = 161 Meal ob:n = 36	14 weeks	Care homes in Australia	To examine the current strategies of menu planning and whether this facilitated appropriate levels of choice for residents receiving texture modified and general diets	Choice was low across the sector but particularly for those needing TM diets
Andrew & Ritchie 2017 Journal of Housing for the elderly. 31 (1) 34–46	Qualitative descriptive	20	None	Residents and family in one residential home. New Zealand	Secondary analysis of original study. To discuss the potential benefit of a cafe on the premises of a residential home	Culture can be improved by environmental change such as a cafe
Bangerter et al 2016 Gerontologist, 56 (4) 702–713	Quantitative Questionnaire	337	None	Long term care residents with mean age of 81 years in 35 residential centres USA	Understanding how to balance clinical need and health and safety concerns with resident preferences	Resident preferences must be considered when implementing person- centred care

Bennett et al 2015 International Journal of Speech-Language Pathology. 17(5): 451–459	Qualitative - Post-positivist, reality-oriented inquiry	43	None	Residents (with minimum 3 months stay) with mean age of 84 years and staff of two long term care residential homes. Australia	To compare documented residents notes reported and observed mealtime management and to explore factors influencing optimal mealtime care	Poor care records can lead to poor nutritional care
Bernoth et al 2014 Collegian. 21 (3) 171-177	Qualitative - phenomenology	43	None	Family and friends of residents experiencing long term care. Australia	Secondary data analysis of two projects To explore opinions of family members of how residents access food and fluids in aged care facilities.	Access to and choice of food in residential homes is poor
Bhat et al 2016 Journal of Foodservice Business Research, 19 (3) 287-297,	Quantitative Intervention and questionnaire	254	5 months	Residents aged between 60 and 100 years of one residential home USA	To improve the quality of life of the residents of a skilled nursing facility through a mealtime related intervention that involved various changes of culture of mealtimes	A positive impact of culture change on the nutritional status and satisfaction levels of the residents was observed

Boelsmar et al 2014 Journal of Aging Studies. 31 45– 53	Qualitative Observation and interviews	58	5 years of data collection	Older residents with mean age of 85 years in 7 care homes. Netherlands	To understand what aspects of care that older people in LTC Facilities want to improve	Important themes: a sense of community, feeling at home, social contacts between residents, independence, maintaining own hobbies and lifestyle, interpersonal conduct between residents and caregivers, being informed, security within the LTC facility, and food.
Bonifas et al 2014 Journal of Aging and Health. 26(8) 1320 – 1339	Qualitative Phenomenological Interviews	23	1 month	Residents in one 472 bed care home. USA	To understand how living in a long-term care (LTC) home influences the quality of residents' relationships with peers, family members, and outside friends	Residents' insights emphasize how personal characteristics influence community culture and the experience of place.
Burgher et al 2017 Journal of Nutrition Health and Aging, 21, (4) 464-472	Quantitative Questionnaire	541 care homes	2 months	Care Homes across Germany	To examine if nutritional care differs between small, medium and large care homes	Size of care home does affect nutritional care

Chang et al 2015 International Journal of Nursing Practice 21: 269–277	Intervention Mixed methods – questionnaire and observations	43	None	Residents with mean age of 82.5 years in 5 care homes Australia	Intervention of introduction of evidence based weight loss framework guidance to understand if it was effective to prevent undernutrition	Focus on Feeding! Decision Model developed
Cooper et al 2017 Age and Ageing. 46: 39–45	Two stage Delphi study	352	2 months	Health professional and managers of care homes UK	To establish a consensus on the care and professional development needs of registered nurses in care homes	Health and social care systems need to work together to ensure staff are well trained
Crogan et al 2015 American Journal of Alzheimer's Disease & Other Dementias 30(7) 679-685	Quantitative – nutritional status	61	2 months	Residents with mean age of approximately 85 years in two care homes USA	Intervention to test a new food delivery system that empowers elders to choose the foods they want to eat and gives them an active voice in menu development	Food intake increased slightly with the intervention group
Dermiki et al 2015 Appetite 90. 108–113	Quantitative	40	None	Older adults UK	To investigate if repeat exposure to a novel flavour combined with monosodium	MSG added to soups on repeat exposure can increase food intake

					glutamate (MSG) has shown an increase in liking and consumption for the particular flavour	
Divert et al 2015 Appetite 84 139–147	Quantitative - Scales based on hunger and enjoyment	42	12 weeks	Care home residents with mean age of 86.6 years in 3 care homes. France	The impact of four contextual factors on food intake and meal pleasure in older people living in nursing homes were tested - the way the main course was named on the menu, the size and the variety of portions of vegetables served to residents', condiments and table décor.	Each individual factor can improve food intake and enjoyment
Dunn & Moore 2015 Journal of Health Psychology. 21 (5) 619-627	Qualitative Interviews followed by thematic analysis	5	None	Care home staff in 2 care homes in UK	To understand care home staff perceptions of 'caring for residents nutritional needs.	Challenges exist including staff shortages, residents' resistance to living in institutions and challenges with health care systems. Failed to address ethical issues

Durkin et al 2014 Journal of Applied Gerontology. 33(5) 586 –602	Quantitative Various nutrition measures plus observation	74	None	Care home residents in 6 different residential facilities in USA	To determine: (a) the frequency of family visitation during mealtime and (b) whether the presence of family during meals had an impact on the quality of feeding assistance care and resident intake.	Residents get few visitors but if they are there at mealtimes then assistance is increased
Ericson & Lidman 2014 International Journal of Older People Nursing. 160-169	Qualitative - participatory action research	6	None	Family members of residents from a single care home Sweden	Care providers were interviewed and given a voice through the methodology to their troubled conscience caring for residents	Difficulty to make changes if management approach is too structured.
Grondaal & Aagard 2016 International Journal of Older People Nursing, 11(3): 204-213.	Quantitative Cross sectional survey	204	None	Residents in 32 care homes. Norway	To explore how residents in nursing homes perceive their participation in activities related to food and meals, and possible factors influencing their involvement	Limited involvement with activities. Residents vulnerable to malnutrition

Harnett & Jonson 2017 Ageing & Society. 37 (4) 823-844	Qualitative Interviews	45	5 months	Staff and residents in 5 nursing home settings. Sweden	To analyse how the staff and residents shaped mealtimes by initiating frames and acting according to established social scripts	Three themes were identified Institutional meal frame was dominant; There were substantial difficulties in introducing private frames Successful creation of private or home-like meal situations illustrates an often overlooked skill in care work. Did not address study limitations
Hartman-Petrycka 2015 Social Welfare Interdisciplinary approach. 5 (1) 114-124	Quantitative	100	None	100 older people Poland. 40 from one residential care home and 60 from community	To understand satisfaction with diet through photographs between older people leading independent lives and those living in care homes	Food preferences and satisfaction highly dependent on where older people live
Hendry & Ogden 2017 Kai Tiaki Nursing Research 7 (1) 41-45	Quantitative – audit	None	None	34 hospitals and residential homes New Zealand	The findings of an audit on hydration of older people over 24 hours	Older people in long term care are likely to be dehydrated

Hung et al 2016 Journal of Applied Gerontology. 35(12) 1279 – 1301	Qualitative Interviews and focus groups	14	None	Staff at a two care home. Canada	To evaluate the effect of dining room environmental changes on staff practices and residents' mealtime experiences using Dining Environment Assessment Protocol (DEAP)	Four themes: Supporting independence and autonomy Creating familiarity and enjoyment, Providing a place for social experience, Challenges in supporting change
Joseffson et al 2017 Journal of Nutrition, Health and Aging. 21 (9) 1057-1064	Quantitative – cross-sectional – survey	1154	3 months	Municipality register data from various regions in Sweden	To explore quality indicators including Meal satisfaction and BMI of nutritional practice in care homes	Quality indicators are linked directly to meal satisfaction
Keller et al 2017 BMC Geriatrics 17 (15)	Quantitative – various measures of food intake and nutritional status	639	12 months	Residents over the age of 65 years in 32 care homes Canada	Protocol used to examine determinants of food and fluid intake among older adults participating in the Making the Most of Mealtimes (M3) study	Various factors discussed included nutritional status, food intake and observed eating behaviour

Maitre et al 2014 Food Quality and Preference. 32. 145-151	Quantitative	559	1 year	Range of older adults over the age of 65 years including some that lived in a care home France	To assess the impact of food selectivity on the nutritional status of the older	Increased food selectivity increases risk of under nutrition
Mingioni et al 2016 Food Quality and Preference 50 (2016) 27–37	Quantitative – questionnaire	420	1 year	Older with mean age of 82 years in 5 European Countries in a range of settings including residential homes	To identify the liking of fruit & vegetables, eating styles and food selectivity depending on the country of residence and levels of dependency Various measures in questionnaires based on preference	Fruit and veg selectivity does depend on country of residence but not gender
Mojsa & Chalcix 2015 Progress in Health Sciences. 2015, 5 (1) 56-62	Quantitative – questionnaire	100	90 days	care home residents Poland	To evaluate any changes in physical activities of daily living at entry and after 90 days of in-home nursing care.	Dependency is high for residents in LTC in Poland
Pouyet et al 2015 Food Quality and Preference 44. 119–129	Quantitative	104	3 weeks	Residents aged 70 years or over in four care homes France	To study the influence of flavour enhancement on food liking and on food intake in older adults	Flavour enhancers tested can improve food liking

Roller et al 2016 The Journal of Nursing Home Research Sciences. 2 27- 33	Qualitative – problem centred and structured interviews	25	None	Staff working or experienced in delivering nutritional care to older residents. Austria	To assess the attitudes and knowledge of health care professionals, with respect to key factors that influence malnutrition.	A gap exists between the attitudes of health care professionals and (what is being done
Van Damme et al 2016 Journal of Nutrition Health and Ageing. 20 (5) 471-477	Double Delphi study	11	None	Range of health professionals working in or with residential care Netherlands/Belgium	To develop a content validated set of indicators to evaluate the quality of meals and meal Service	quality of meals and meal service' set of indicators is a resource to map meal quality in residential facilities for older.
Van Der Meij et al 2016 BMC Geriatrics 16 169-184	Quantitative – forced choice preference tests using images	349	None	Older people over 65 years living in care homes, hospitals and independently Netherlands	To investigate food preferences of older adults with a poor appetite and compare these with preferences of older adults with a good appetite.	Residents with poor appetite may have specific food preferences

Van Hoof et al 2015 Appetite. 90 168-175	Qualitative Photography followed by interviews and focus groups	78	None	Participants from 4 nursing homes	To investigate the factors influencing the sense of home of older adults residing in the nursing home from the perspective of residents, relatives and care professionals.	The situation is complex but influenced by psychology of the residents, and the social and built environmental contexts
Watkins et al 2017 ^a BMC Geriatrics. 17 (141)	Qualitative Interviews – thematic analysis	11	None	Residents, aged over 65 years in four care homes UK	To gain an insight into meal experiences and explore some of the issues that may impact on residents' enjoyment of meals,	Mealtimes are important and contributing factors include: Food preferences Socialising Autonomy

Literature reviews

Study reference Author, date, journal	Review type	Search criteria	Measures	Outcomes
Hooper & Bunn 2016 J Gerontol A Biol Sci Med Sci, 71 (10) 1341–1347	Review of literature	None identified	Overview of dehydration and how one care home has introduced a strategy to improve dehydration risk	Non identified
Illario et al 2016 Advances in Public Health online	Review of literature	None identified	Describes a nutritional approach of the European Innovation Partnership for Active and Healthy Aging (EIP-AHA). The aim is to provide a common European program translating an integrated approach to nutritional frailty in terms of a multidimensional and transnational methodology	Nutri-live and Screening-Assessment-Monitoring-Action-Pyramid-Model (SAM-AP).
Oats & Price 2017 BMC Nursing 16 (4)	Systematic literature review	MEDLINE, CINAHL, and EMBASE Google and Google Scholar	To understand the clinical assessment tools which identify patients at risk of insufficient oral fluid intake	There is insufficient evidence to recommend a specific clinical assessment which could identify older persons at risk of poor oral fluid intake
Watkins et al 2017 ^b	Literature review	Medline, Embase,	To understand the factors	Four main themes were

Geriatric nursing 38 325-333		PsychINFO, AMED, and the Cochrane Database.	that may contribute to Undernutrition by examining attitudes, perceptions and experiences of mealtimes among care home residents and staff.	identified: organizational and staff support, resident agency, mealtime culture, meal quality and enjoyment
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Appendix 3

Questionnaire for course participants

Care home:

Participant

Course attended

As part of the research into understanding the impact of nutrition training for care workers in Dorset I would be most grateful if you could complete this questionnaire. Please see Participant information sheet for further information. Unless otherwise indicated tick the answer that applies best to your care home.

Once completed please return, in the enclosed stamped envelope or to Joanne Holmes, Bournemouth university.

1. What is your job role at the care home you are representing?

Manager

Registered nurse

Care assistant

General care worker

Chef

Kitchen assistant

Other.....

2. The menus account for different dietary requirements of the residents.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

3. We regularly discuss food preferences with our residents.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

4. There is often food leftover on resident's plates at the end of meals.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

5. The residents are often asked their opinions of the food and drink served.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

**6. I would describe the environment of the dining room in our care home as:
(Tick all that apply)**

Calm
Homely
Noisy
Comfortable
Rushed
Stressful
Sociable
Formal
Busy
Other.....

7. If a resident is following a special diet (e.g. vegetarian, modified texture/pureed), how many choices do they have on the menu for their main meal?

1
2
3
More than 3

8. Food for all the residents always looks appetising including for those residents requiring special diets (inc modified texture/pureed).

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

9. Residents often have to wait some time for their meal.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

10. Residents make their own meal choices in the morning for all meals that day.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

11. If a resident has special needs e.g. dementia/Alzheimer how is the menu options presented (tick all that apply)?

Pictures
 Photographs
 Discussed verbally
 Written on conventional menu style
 We make the decision for them
 Other.....

12. There are a wide range of drinks on offer ALL the time.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

13. What is the normal length of time between the evening meal and breakfast?

Less than 8 hours
8 - 9 hours
10 – 11 hours
12 – 14 hours
More than 14 hours

Comment

14. There are a wide range of snacks on offer ALL of the time.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

15. What measures do you make for people with small appetites/early satiety to ensure adequate food intake?

Nothing

Regular small snacks such as a biscuit

Offer more than 3 meals daily

Special in between meal snacks e.g. protein rich sandwiches/dairy based desserts/milk shakes

Nutritional supplements

Fortify desserts

Other.....

16. The following are self-serve for the residents

All meals

Gravy

Other sauces

Bread and butter

Vegetables

Desserts

Breakfast items

Other.....

17. It is common practice to monitor and record what a patient is eating all the time.

Strongly
Agree

☐

Agree

☐

Slightly
Agree

☐

Slightly
Disagree

☐

Disagree

☐

Strongly
Disagree

☐

Comment

18. If you do monitor and record what a patient is eating how do you do this?

.....

.....

.....

19. It is common practice to monitor and record what a patient is drinking all the time.

Strongly
Agree

☐

Agree

☐

Slightly
Agree

☐

Slightly
Disagree

☐

Disagree

☐

Strongly
Disagree

☐

Comment

20. If you do monitor and record what a patient is drinking how do you do this?

.....

.....

.....

21. There are too many residents who need help to eat and drink for me to give personal care to everyone at mealtimes.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

22. I use the following techniques to identify patients who are not eating enough (tick all that apply):

Observation
Recording what is being eaten
Routine measurements of height and weight
MUST tool
Occasional weighing
Other.....

23. I carry out the above on all patients.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment

24. Residents are often interrupted at mealtimes.

Strongly
Agree
☐

Agree
☐

Slightly
Agree
☐

Slightly
Disagree
☐

Disagree
☐

Strongly
Disagree
☐

Comment

25. If you were a resident of the care home would you eat and enjoy the food on offer?

Yes

No

Sometimes

Thank you for taking the time to complete this survey.

If you have any questions regarding this survey please do not hesitate to contact me:

Joanne Holmes BSC (Hons) RNutr, holmesj@bournemouth.ac.uk, 01202 961584

Appendix 4

Observation Schedule

Care Home Code:

Time:

Date:

Meal observed: Breakfast

Lunch

Dinner

Afternoon

Tea

<u>Environmental factors</u>	
Room type	
Layout of tables and chairs	
How are residents seated	
Make up of tables – table cloth, flowers, condiments etc.	
Atmosphere – quiet, noisy, music, etc.	
<u>Food Service</u>	
Direct from kitchen	
Plated up	
Served up at tables	
Other	
<u>Social Interaction</u>	
No. of interruptions	
Do staff assist residents and how	
Empathy of staff with residents	
<u>Consequences of Ageing</u>	
What specialist equipment available	
Is food easy to reach	
Is drink easy to reach	

<u>Sensory appeal</u>	
How are specialist foods (pureed/Texture modified) served	
How are residents requiring specialist diets monitored	
How are specialist diets delivered	

Appendix 5

Interview framework for course participants

Care Home Code:

Interviewee Code:

Time:

Date:

Interviewer:

Introduction

Switch on voice recorder

Thank you for agreeing to be interviewed as part of my research study. The purpose of this research is to evaluate how different types of nutrition training impact on practice and nutritional values of care homes in Dorset in order to inform developing nutritional education practice for the care sector. You have been selected because you attended (*name training of course*). Do you have any questions that you would like to ask before we start with the interview? *Give participant information sheet.*

If you would like to have a rest during the interview please just say and we will stop for a while.

Finally I am interested in your opinion

NOTE to interviewer:

- *Remember to allow pauses to allow thoughts and wait to hear more*
- *Show interest uh-huh, I see, yes*
- *Repeat question if necessary*

General questions to get started?

Can you tell me overall what the meals like here are?

Food service

Availability of food, meals, snacks, drinks?

Environmental factors

Where do residents tend to eat their meals?

Why?

Sensory appeal

What are your opinions of how food is served here?

What about the different equipment available to help residents eat?

Prompt if necessary – plates, cups, glasses,

Are residents interrupted at mealtimes

How easy is it to help residents at mealtimes

Training

Have your thoughts changed about mealtimes since the training programme?

Have you made any changes

Thank you

The end

Appendix 6

Interview framework for residents

Care Home Code:

Interviewee Code:

Time:

Date:

Interviewer:

Introduction

Switch on voice recorder

Thank you for agreeing to be interviewed as part of my research study. The purpose of this research is to evaluate how different types of nutrition training impact on practice and nutritional values of care homes in Dorset in order to inform developing nutritional education practice for the care sector. Go through participant information sheet. Do you have any questions that you would like to ask before we start with the interview?

If you would like to have a rest during the interview please just say and we will stop for a while.

Finally I am interested in your opinion

NOTE to interviewer:

- *Remember to allow pauses to allow thoughts and wait to hear more*
- *Show interest uh-huh, I see, yes*
- *Repeat question if necessary*

General questions to get started?

Can you tell me overall what the meals like here are?

What are your favourite foods?

In general do you get them here?

Do you get chance to give the chef ideas on what you would like to eat?

Do you get chance to give the staff ideas on what you would like to drink?

Are there any foods you really miss since you have started living here?

Prompt: That's helpful to know

Food Service

How do you choose what you want to eat?

What happens if you miss a meal?

Prompt: For example you have had to visit the hospital or doctor

Prompt: Can you tell me overall

Are there snacks available?

Prompt: If you get hungry and it is not meal time/when you want them?

Prompt: Could you be more specific

Do you have to ask for them?

Are there drinks available all the time?

What sort of drinks are they?

Prompt: Can you think of an example

Do you have to ask for them?

Prompt: That's helpful to know

Environment Factors

Where do you normally eat your meals?

Prompt: Tell me more about why you eat there?

What is the atmosphere like in the dining room at meal times?

Do you think the furniture is laid out well in the dining room?

How would you do it if you were in charge?

Prompt: That's helpful to know

Social Interaction

Are you ever interrupted eating?

Prompt: could you be more specific? (to go and do something else or talk to someone?)

Are you normally hungry at the start of the meal?

Are you ever hungry at the end of the meal?

Person-centred

In general do you ever leave some of the food on your plate?

In general do you think the portion sizes are too big/too small?

Do you get plenty of time to eat your meal?

If you ever need help do the staff help you?

Prompt: can you think of an example of when you needed staff to help you?

How do they do this?

*Prompt: Can you think of an example of how they helped you
(Helpful/condescending/ease/chatty)*

Consequences of Ageing

Do you find it difficult to eat with the cutlery they use here?

Prompt: Could you say more about why

Do you find it difficult to eat with the plates they use here?

Prompt: Could you say more about why

Do you find it difficult to drink from the cups and glasses they use here?

Prompt: Could you say more about why

Sensory Appeal

How is the food served here?

Prompt: do they deliver it to your table/ does it come straight from the kitchen on plates/do the staff serve it

How appealing is the presentation of the food served here?

Prompt: appearance/smell/taste

Does the food get served at the correct temperature?

Prompt: Could you be specific?

The end

Thank you very much for your time. I really appreciate your thoughts on all my questions you have been really helpful.

Appendix 7

Appendix to show Shapiro Wilk test for normality for all Likert based questions

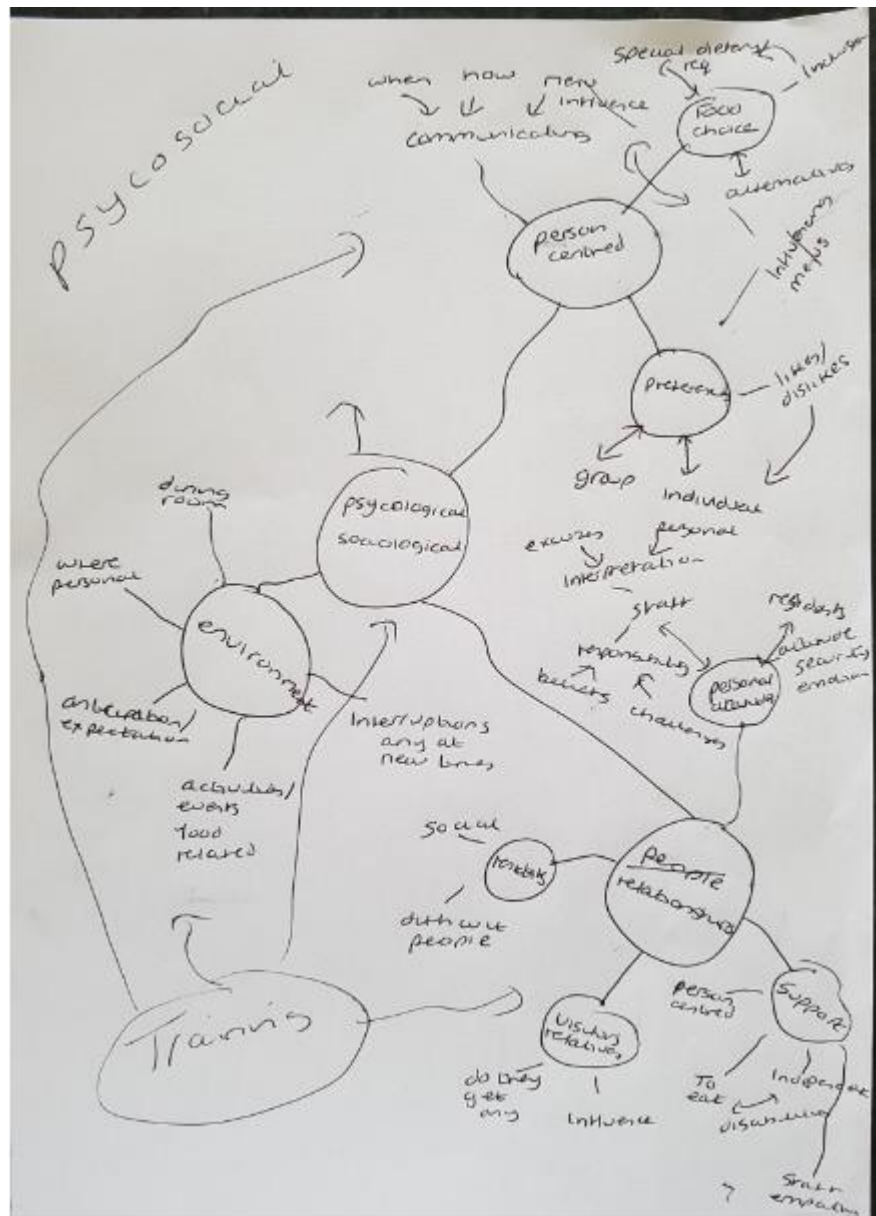
	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Menus account for different dietary requirements of the residents	.319	28	.000	.719	28	.000
We regularly discuss food preferences with our residents	.270	28	.000	.669	28	.000
There is often food leftover on residents plates at the end of meals	.216	28	.002	.923	28	.041
The residents are often asked their opinions of the food and drink served	.310	28	.000	.720	28	.000
Food for all the residents always looks appetising including for those residents requiring special diets	.304	28	.000	.820	28	.000
Residents often have to wait some time for their meal	.363	28	.000	.811	28	.000
Residents make their own meal choices in the morning for all meals that day	.184	28	.016	.884	28	.005
There are a wide range of drinks on offer ALL the time	.314	28	.000	.643	28	.000
There are a wide range of snacks on offer all the time	.254	28	.000	.775	28	.000
It is common practice to monitor and record what a patient is eating all the time	.318	28	.000	.678	28	.000
It is common practice to monitor and record what a patient is drinking all the time	.255	28	.000	.822	28	.000
There are too many residents who need help to eat and drink for me to give personal care to everyone at mealtimes	.312	28	.000	.811	28	.000

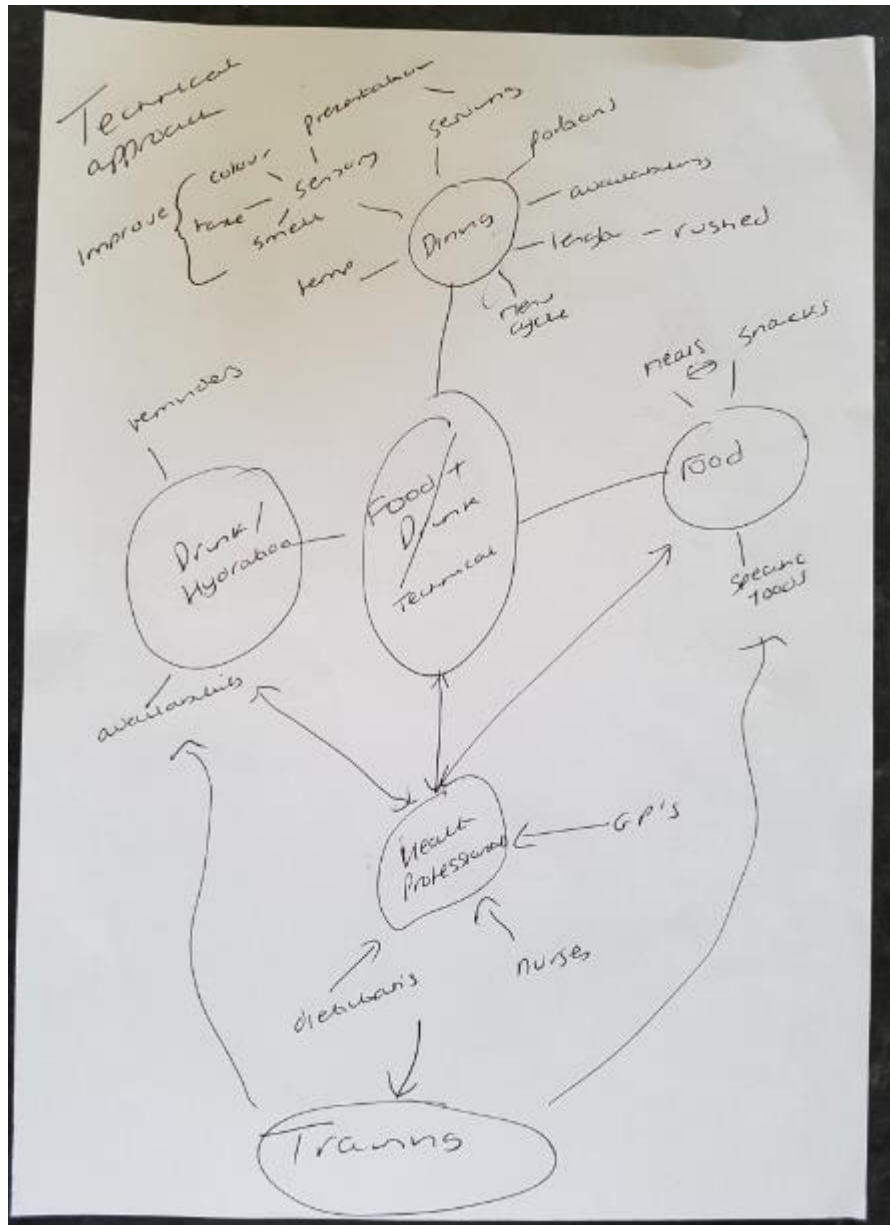
Residents are often interrupted at mealtimes	.393	28	.000	.737	28	.000
--	------	----	------	------	----	------

a. Lilliefors Significance Correction

Appendix 8

Mind map of initial coding ideas





Appendix 9

Qualitative data coding

Psychosocial influences

Person-centred aspects of Food choice

Accounting for group preferences

Dispref Group discussions on menus etc.

Comm communicating with residents about food preferences

Infl **People who influence menus** residents, relatives

Knowing the person

FcP - **Preference** – to include individual likes/dislikes

Decs **Individual decision making** what type of foods individuals like

Food choice

Fcl - **Individual needs** - to include specific conditions e.g. diabetes, high fibre or specific food preferences

Alt **Alternative foods on offer**

DInc **Inclusion** ensuring food choice and available foods for those with specific health conditions

Communicating food selection

FcC - **communication** – resident/staff communication to inc when choice is made/menu influence etc.

Time - Time made to make food selection for specific meals

Met **method of making food choice** – pictures, photographs, written, discussed, blackboard

Relationships with others

With other residents

MS **Social** – to include compatability of dining companions

Dif **Difficult people**, not getting on with others, problems with difficult people due to other conditions, character, personality clashes

Visitors and relatives

Vis visibility, presence, talk of having visitors at mealtimes, offering food, impact of visitors, relatives, influence at mealtimes

Support to eat and drink

Person-centred care

DP Personalised care – staff awareness of individual needs/preferences/care plans/support required

Supported eating

Dis Disabilities – that require further help, minimal help

Eating independently

DInd Independence – encourage/decision making etc.

Staff empathy

DSE Staff empathy – Awareness of resident needs, feelings, made to feel special

Personal attitudes

Resident outlook

RA Residents Attitude – to food/satisfaction and general food and meal time experience

Dem Emotional needs – confusion/frustration of residents

DS Security – being cared for/no longer need to worry/no hassle/

Staff responsibility for change

ChL Lasting beliefs of staff

Chall Challenges of getting staff to change

Staff interpretation

ChE Excuses for not doing things regarding meals, food and drink

ChP Personal interpretation of what residents want and are doing

Social environment

Dining setting

ME_n Environment – to include dining room layout, own room if eat meals in there, tables, chairs, peripheral furniture

Personal choice on where to eat

Cheat Pers env where residents choose to eat and why, dining room, own room, other

Anticipation

ME_x Expectation – to include timings, delays, anticipation, waiting times, getting bored, forgotten

Food related activities

ME_v Events – celebrations/special events etc., days out, parties, extra events to add to social calendar, themed meals

Interruptions

Int Interruptions to mealtimes, visitors, health care workers, emergencies, medical trolleys, any action that stops meals being eaten, distracts from eating

Technical

Food and drink service

Menu cycle

FcM - menu cycle – predictable, repetition, number of weeks, menu plans, lunch, breakfast, dinner

F2P Presentation – courses, number, frequency

Temperature of food

PT - Temperature of food – hot, cold, reports thereof

Sensory appeal

SA – Sensory appeal of food and drink – reference to colour, taste, organoleptic features, smell, visual appeal, odour, etc.

TMax Maximise sensory appeal – add ingredients to improve taste/appearance, smell, proximity to kitchen etc.

Serving method

PS - **Serving method** – serving method, plated, sauces, serving dishes etc., on table, taken from serving hatch, carers rotate around room with plates, serving dishes

Portion sizes

PP - **Portion sizes**, small, big, feeling full, hungry

Length of meal

LM **Length of meal** – time taken to eat meal,

R **Rushed** – carers taking meals/plates away quickly, demonstration of hurrying residents, moving away from tables quickly, not finishing meals

Food availability

ON Availability of food overnight and evenings

Hydration

Availability

THyd **Hydration** Drinks available, types of drinks, frequency

Reminders

HydR **Reminders** Reference to being reminded to drink and staff reporting reminding residents to drink

Engagement of health professionals

THea **Health care provision** – dietetic support/nurse/GP all health professional visits etc.

Nutritional value

Specific foods

TSpp **Specific nutrients and foods** Mention of any specific foods and reference to nutrient that are problematic, difficult to eat, should be included, not included

Snacks and meals

S **Snack availability** - food and drink delivered in between main meals of lunch, tea, breakfast especially overnight/evening snacks

Ingredient fortification

TMal Malnutrition – MUST, missing meals, snacks, interruptions, equipment, fortification, own food supply

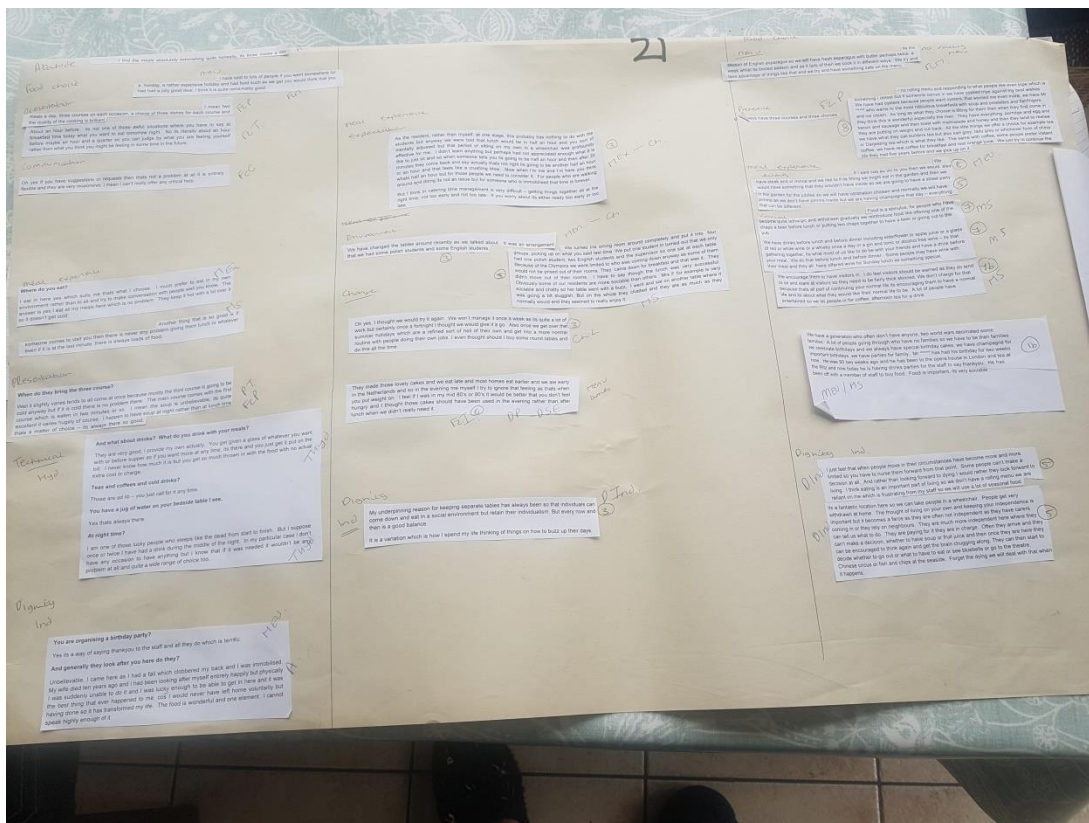
Training

Train – dig Effect of dignity in care training

Train – one Effect of one day training

Appendix 10

Sample of developing coding interviews



Appendix 11

Coding of sample interview transcript

1 Interview with manager (L12)

2

3 Care Home Code: 41

4 Time: 11.30

5 Date: 28th November 2013

6 Meal observed: Breakfast Lunch Dinner Afternoon Tea

7 Other

8 Can you tell me overall what the meals here are like?

9 Yes its every oh gosh its three choices and its changed every third week. We have people in
10 who are on special diets, diabetics, coeliacs umm gluten free, weight restriction, fluid *FEI*
11 restriction. One thing that touched me we had a chappy here on a very strict fluid restriction
12 and the trolley went by and i said what is that and they had even measured the gravy. I said
13 you wouldn't get that in intensive care. They had followed this to the letter and his fluid chart
14 was amazing.

15 We just cater for just like for the 27 residents. We have about 6 diabetics. There is no one
16 on other specific diets at the moment and of course we get people in with PEG feeds and all *FEI*
17 sorts. Its just as and when really.

18 What about availability of drinks?

19 My lot get alcohol so why couldn't we with our meal. That was the first thing we noticed. The *ALT*
20 choice was water or orange and later there was some diet coke. Were you reminded about *Thyd*
21 drinks. They asked us what we wanted with our meal and gave it to us but after that first
22 glass then they didn't ask us again. They never asked us if we wanted any more and we
23 had to ask.

24 Drinks here are more ad lib?

25 Everyone here is on a tick chart and they will do it automatically. They will take the plate *Tmal*
26 away and then tick how much has been eaten so Beverley has had a whole, half or quarter.
27 When someone comes in they are put on a strict diet or food chart and fluid chart. When you
28 are in the dining room it will give you chance to see everyone and to observe and then
29 perhaps if someone is eating less and less then we can say whats going on is their dentures *Threa*
30 or what that would flag up to me or others then we can talk to the diettian. We have a good
31 rapport with the GP's, which is rare as everyone puts weight on when they come here its *Tmal*
32 good to see. We MUST everyone. I normally get them when they've been in Bourne mouth *Threa*
33 Hospital for three months, theyre not eating they're depressed and they are sick of hospital
34 food and you see this woe of weight gain and its great but then you see someone and it
35 flags up an issue. People with dementia little Betty is an example god bless her, shes
36 passed away now but she lived on supplement drinks. I don't know how she went on for so
37 long on supplement drinks. I don't have to quibble, if I haven't done the weighing and the
38 high protein diet and they say to me what have you done. I say to J***** to put cream in and
39 so on but I don't need the diettian in I just ring the GP and I say so and so has lost so much *Tmal*
2015

1

40 weight, we have done a/b/c and d can you please give us some milky drinks. I like the
41 fortisip ones the chocolate ones and we keep them refrigerated. We don't do the yoghourts
42 and the apple juice is yuk whereas some GP's won't give them they trust me now that I have
43 tried every possible route and have that relationship with them so they just give them to me.

GP

44 I have got two morbidly obese women here who are still quite mobile mmmm they are
45 probably bariatric. One of them is probably the most stable unstable diabetic you've ever
46 met in your life her blood sugars could go from 2.3 up to 28.9 and you'd never know. She is
47 the same throughout and there is no indication. We do diabetic food and she does have
48 cakes and cookies and who am I to put her on a reducing diet. She hasn't ballooned, her
49 weight has been static since she came here 4 years ago. She hasn't gained a huge amount
50 of weight and I am not going to put her on a diet, that's not fair. And the same with D*** she's
51 still ambulant, she walks she talks, she snacks in her room. She's always got a bowl of
52 goodies in her room that the son brings in every day and the staff are caught in there saying
53 give us a crunchie D*** and why not she enjoys her food.

Att.

S

54 It's the balance between dignity and health and when you're dealing with elderly then why
55 not?

DP

56 We've got something good here. I know about good food, my father was a chef so I learnt
57 young. The roasts are good and like you would cook at home. We can go the extra step
58 because we are small and we can give choice. Lunch time is the focal point of the day.

GC I

59 Breakfast is served in their rooms either in their beds or some like to be dressed and washed
60 and up.

61 Afternoon tea there is always home made cakes

TSPP

62 Tea time is served in their rooms or in the day room or the library they can sit where they
63 like.

creat

64 What about the availability of snacks?

65 We are going to offer the tuck shop with the three o'clock tea trolley and they can get things
66 for later if they wish. Yesterday we had a movie Wednesday where we make the lounge into
67 a cinema and have popcorn and marshmallows and they sit there munching away on the
68 goodies. You get to know because it's a small home and families can bring things in if they
69 want and some people who have no-one on this earth then they can have something to
70 nibble on in their room.

DP
Mew

S

71 How do you establish food preferences?

72 We do it on admission. I do a preassessment in hospital but I don't go into that much depth
73 and then when the nurses are unpacking Ethel into her room and spending the quality time
74 with her we will sit down and spend time. If that doesn't work then we go to the family and
75 work out likes and dislikes. It's important for us to get the coffees and teas right from day
76 one. Do they take sugar do they have this and that. Most of them drink plenty here and they
77 can have tea or coffee at any time as well it's not like a certain time like lunch time or dinner
78 time, they can have tea or coffee all day long. It's just getting to know. I could tell you what
79 all my residents like and dislike but I could also tell you maybe what Dorothy would choose
80 today for lunch out of a choice of one, two or three. We know. Just to get to know them I

F&P

DP
My JR

Rees

2

81 normally get the family or the resident to just give me a list and to sit with me to tell me what
82 they like and don't like. InH

83

84 Have your thoughts changed about mealtimes since the training programme?

85 As I said I am introducing the tuck shop, that was important, when you look around you will
86 see what we do here nutritionally for our residents. I noticed that I was hungry and I didn't
87 have things in my room to nibble on and things like that. You get to know because it's a
88 small home and families can bring things in if they want and some people who have no-one
89 on this earth, then they can have something to nibble on in their room. Even though we
90 know, it's such a nice little nursing home its like if one of the residents vomited at lunch time
91 so they missed a meal, we are very aware if they have missed that meal but I just think
92 there are always cakes and biscuits but if they want something of their own like a packet of
93 crisps or if they want an apple they can have that. The tuck shop will be up and running and
94 we will fund that ourselves. We'll see how it goes see if they staff don't delve into it. Dig Train

95 There are a few things. We had the LinkS people in and we got a really excellent report and
96 they stayed for lunch and everything else. It was very good. But it is things like, well I've
97 been here 5 years this Christmas and I've inherited a lot of things. The meals are plated up
98 very nicely very warm, hot and everything else. You can vouch for the food - you can vouch
99 for the food (looking at the students who were sitting in) Students always love the food. We
100 always ask the day before and I'm questioning that now and I'm thinking why can't we ask
101 them in the morning. There was one girl on my table who does that and I asked how do you
102 get the portion control right the amounts right so you don't waste. So from the menu choices
103 you are not too heavy with one thing and not use the rest but I'm thinking about that and
104 made me question my practice here. Temp Time

105 We specialise here in palliative care so nutrition for us is one of the last things, the food and
106 the enjoyment. I'll take you down to the kitchens and introduce you to the chef. If there is
107 something the residents doesn't fancy on the menu then we say to them well what do you
108 fancy, what do you want. J***** is lovely in the kitchen, I can't give them steak and chips but
109 I can offer other things and we have actually gone down to the chip shop and given them
110 that or if they fancy a nice poached egg with a bit of soft bread or something, we can do it
111 there and then. So we notice things like thatdefinitely the tuck shop and I am going to
112 bring it up at the next meeting why we can't ask them what they want to eat on the day. But
113 as I said the food here is one of the selling points we are a five star hygiene and the
114 certification and things like that. F&E DSE 2F&P 25PP F&C Time

115 Thinking about the meal experience and sitting down in the dining room in sTimul,
116 how did you find that.

117 Intimidating. I know its different and hopefully you'll watch our mealtime and I am very
118 aware of, well one of the first things I did when I got here was to change well first of all the
119 environment cos this place doesn't look like it did when I arrived. Lunch time is a very
120 important time for me you can't drag people out of their rooms. Its obviously choice but we
121 promote being social so we say well for example take Dottie, she'll only come downstairs for
122 her lunch and sit with the ladies and then she'll go back to her room. So mealtimes for me,
123 lunch time, well its important. I'll show you the room, its lovely and its airy and its all hands Men Pers end

124 on deck. Our mealtimes are about 12.30 so about then they come on in. Our staff we don't
125 go breaks at mealtimes so if someone needs feeding there will be someone to help them.
126 We have the music on, its very relaxed and there's the drinks trolley, it's a very sociable
127 event. So the staff will sit with them and there is a lot of laughter

Op

128 This was less evident on observation

129 I don't want it rushed. The only people I let disrupt at lunchtime is the GP but it is difficult but
130 they normally come at about 2.00 its very rare I need to drag anyone out of the dining room.

Int

131 So?

132 Its like being in a restaurant but the waiter constantly being there over you, hovering. I found
133 that really really awful. Also it wasn't the best environment even though it was the best part
134 of the day, mealtimes, coming together and mainly that. That was all we thought about the
135 next meal and we would look at the clock and it was another two hours to go. There was
136 someone else who stuck to thickened fluids, throughout the three days, and we all had a go
137 and it wasn't just a sip. One lunch time I had some orange juice and I put all the thick n easy
138 just to drink the whole glass

Trans
dig

139 We had a clock in the room and in between courses there seemed to be such a long length
140 of time at Stimul. That was no reflection on your girls and there was some confusion on the
141 first day cos we didn't know what was involved at mealtimes and we were given soup and
142 we thought this was it and on the first day we ate the soup and then we didn't know what
143 would happen after that. So we were all eating this soup saying is this it?

flex

144 Its different though as there were people who hadn't nursed us before they didn't know us
145 and they we didn't know them so they were unsure as well so it was all a bit hickety pickety
146 which it wouldn't be in a normal care environment.

147

Appendix 12

Ethics approval from Faculty of Health and Social Care RG2 panel (pre Faculty of Health and Social Sciences research ethics panel)



School of Health and Social Care

Research Governance Review Group

Feedback to student and supervisors

Student: Joanne Holmes

Title; Understanding the impact of nutrition training for care workers in Dorset: A mixed methods approach

Re-review; from report dated 14.12.11

Report prepared by: Martin Hind.

Date: 31.01.12

Dear Joanne

Thank you for re-submitting your revised participant information sheets to the research governance review group (RG2) in light of your initial report dated 14.12.11. Your amendments have fully addressed the initial points raised and your study is now approved to proceed immediately. This approval will be technically ratified at the School Postgraduate Committee on 20th February 2012, but you do not need to await this event to proceed.

Thank you for taking the time to submit your interesting study to the research governance review group. Please do not hesitate to contact Martin Hind (RG2 co-ordinator) if you have any queries, or need further clarification in relation to this feedback on your study proposal.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Lee Ann Fenge'.

Dr. Lee Ann Fenge
Chair of School Postgraduate Committee

Appendix 13

Letter of introduction for care homes



Bournemouth University
Royal London House
Christchurch Road
Bournemouth
Dorset
BH1 3LT

Dear

Thank you for enrolling or nominating an attendee to enrol on the BU short nutrition course/Stimul session.

In the next few weeks you will be telephoned by Joanne Holmes. Joanne is the trainer in charge of the courses and is also carrying out her post graduate research at Bournemouth University. The purpose of this research is to evaluate how different types of nutrition training impact on practice and nutritional values of care homes in Dorset in order to inform developing nutritional education practice for the care sector. As part of this study she would like to evaluate the impact of the short nutrition course/Stimul training session. The research will involve the following:

1. The person attending the course will be asked to complete a questionnaire evaluating their nutrition knowledge and awareness before attending the BU short course/Stimul training session and 3 months after attending. Completion of the questionnaire will take approximately 20 minutes.
2. A copy of the care home residents menu will be asked for at the same times as completing the questionnaire.
3. You may be asked to nominate an elderly resident who is able to give informed consent to undertake an interview (maximum 60 minutes in length) asking about their opinions of meal times. The interview will be taped so that it can be transcribed at a later date. In addition a short observation of meal times will be required which may include taking photographs.

You are being asked to participate in the above research because you have enrolled on one of the above courses. Your participation and cooperation are important in order to improve the courses and make them more relevant to your practice and suitable for the care sector. The data will be used for the post graduate research thesis and to aid development of future nutrition training programmes. Participation is voluntary and it is up to you to decide whether or not to take part. If you do decide to take part it will be necessary to sign a consent form (see attached). If you do decide to withdraw you can do so at any time and without giving a reason. Not participating will not affect your attendance on the course.

The care home, course attendee and residents will not be identified in any way, all data will be anonymised and analysis will be conducted at an aggregate level not a personal level. The results will be written up as part of my PhD and may be published at a later date.

All information will be kept confidential and only used for the purposes of this research study. All data collected will be destroyed after a period of 36 months.

If you have any queries please do not hesitate to contact me:

e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584 or my research supervisor:

Dr Carol Bond, e-mail - cbond@bournemouth.ac.uk, phone - 01202 961748

Yours sincerely
Joanne Holmes BSc R Nutr

Appendix 14

Participant Consent Form (Manager)



Understanding the mealtimes in care homes

Name of Researcher: Joanne Holmes

Contact details: e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584

Research supervisor: Dr Carol Bond, e-mail - cbond@bournemouth.ac.uk,
phone - 01202 961748

- I confirm that I have read and understood the introductory letter outlining the purposes of the research study and have had the opportunity to ask questions
- Igive consent to for the above named researcher to undertake the study incare home.
- I give consent for copies of menus to be used purposes of this research only.
- I understand that I can withdraw from the study at any time and this will not affect my participation on the Bournemouth University short nutrition course/sTimul session.
- I understand that neither the care home, staff or residents will be identified in the study nor any information given will be anonymous.

Signature of Participant.....Date

Signature of ResearcherDate

Appendix 15

Participant Information Sheet (course attendees)



Understanding the mealtime experience in care homes

Name of Researcher: Joanne Holmes

Contact details: e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584

Research supervisor: Dr Carol Bond, e-mail - cbond@bournemouth.ac.uk,
phone - 01202 961748

- You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve.
- Please take time to read the following information carefully and discuss it with others if you wish.
- Take time to decide whether you wish to take part. Thank you for taking the time to read this information sheet.

What is the purpose of the study?

The purpose of this research is to evaluate how two different types of nutrition training impact on practice and nutritional standards of care homes in Dorset.

Why have I been chosen?

We are investigating nutritional knowledge of care home staff from care homes who have attended nutrition training courses and Stimul sessions.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this participant information sheet to keep and will also be asked to sign a consent form. If you do decide to withdraw you can do so at any time and without giving a reason.

What do I have to do?

You will be asked to complete a questionnaire about your nutrition knowledge and awareness before you attend the course and then 3 months after attending. You will also be asked to give the researcher a copy of the current menu at the same times.

This is because we would like to know if the course has improved your knowledge and awareness of nutrition.

What are the possible disadvantages?

There are no disadvantages or risk to you taking part in this study. It will not affect your attendance on the course.

What are the possible benefits of taking part?

You will be helping in a study that will help to inform developing nutritional education practice for the care sector.

Will my taking part in this study be kept confidential?

All information collected as part of this study will be kept strictly confidential. neither participants nor care homes will be identifiable in the final report.

What will happen to the results of the research study?.

The results will be written up as part of my PhD and may be published in a journal or at a conference at a later date.

Who has reviewed the study?

The research project has been reviewed by Bournemouth University research ethics committee.

Contact for further information?

If you have any queries please do not hesitate to contact me:

e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584 or my research supervisor Dr Carol Bond.

Thank you for taking part in the Study



Participant Information Sheet (residents)

Understanding the mealtime experience in care homes

Name of Researcher: Joanne Holmes

Contact details: e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584

Research supervisor: Dr Carol Bond, e-mail - cbond@bournemouth.ac.uk, phone - 01202 961748

- You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve.
- Please take time to read the following information carefully and discuss it with others if you wish.
- Take time to decide whether you wish to take part. Thank you for taking the time to read this information sheet.

What is the purpose of the study?

The purpose of this research is to evaluate how two different types of nutrition training impact on practice and nutritional standards of care homes in Dorset.

Why have I been chosen?

We are investigating nutritional knowledge of care home staff from care homes who have attended nutrition training courses.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this participant information sheet to keep and will also be asked to sign a consent form. If you do decide to withdraw you can do so at any time and without giving a reason.

What do I have to do?

A researcher will ask you your opinion of the meals given to you by the care home in an interview that may take up to one hour and may also take photos of you at a meal time. This is because we would like to know if the course has improved the knowledge and awareness of nutrition of the staff in the care home. The conversation will be taped so that it can be transcribed at a later date.

What are the possible disadvantages?

There are no disadvantages or risk to you taking part in this study. It will not affect the care you receive.

What are the possible benefits of taking part?

You will be helping in a study that will help to inform developing nutritional education practice in care homes.

Will my taking part in this study be kept confidential?

All information collected as part of this study will be kept strictly confidential. Neither you or your care home will be identifiable in the final report.

What will happen to the results of the research study?

The results will be written up as part of my PhD and may be published in a journal or at a conference at a later date.

Who has reviewed the study?

The research project has been reviewed by Bournemouth University research ethics committee.

Contact for further information?

If you have any queries please do not hesitate to contact me:
e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584
or my research supervisor Dr Carol Bond:
e-mail - cbond@bournemouth.ac.uk, phone - 01202 961748

Thank you for taking part in the Study

Appendix 17

Participant Consent Form (Resident)



Understanding the mealtime experience in care homes

Name of Researcher: Joanne Holmes

Contact details: e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584

Research supervisor: Dr Carol Bond, e-mail - cbond@bournemouth.ac.uk, phone - 01202 961748

- I.....give consent to have an audio recording and photographs taken of myself while being interviewed by the researcher.
- I understand the photographs will not be used in any publication and only act as prompts for the researcher. The researcher alone will have access to view these photographs.
- I understand that excerpts of the taped interview may be used in future conference and journal paper publications. The taped interview will not be shared by anybody other than the researcher.
- All excerpts of the taped interview given in the final dissertation paper will remain anonymous and I will not be identified.
- I am not required to answer any specific questions if I chose not to and have the option to withdraw at any time from the interview or study and the tape destroyed.
- The researcher will retain the taped interview and photographs until completion of the study, a period of 36 months and then it will be destroyed. The tape will be destroyed in accordance with Data Protection and the Records Management Code of Practice.

- The procedure and intended use of the taped interview and photographs have been explained to me by Joanne Holmes (the researcher).
- I confirm that I have read and understood the participant information sheet outlining the purposes of the research study and have had the opportunity to ask questions.
- I understand that I will not be identified in the study and any information given will be anonymous.
- I.....agree to take part in the study.

**Signature of
Participant.....Date.....**

**Signature of
Researcher.....Date.....**

Appendix 18

Participant Consent Form (course attendee)



Understanding the mealtime experience in care homes

Name of Researcher: Joanne Holmes

Contact details: e-mail – holmesj@bournemouth.ac.uk or phone – 01202 961584

Research supervisor: Dr Carol Bond, e-mail - cbond@bournemouth.ac.uk,
phone - 01202 961748

- I confirm that I have read and understood the participant information sheet and have had the opportunity to ask questions.
- I agree to take part in the research study
- I understand that I can withdraw from the study at any time and this will not affect my participation on the Bournemouth University short nutrition course/sTimul session.
- I understand that thecare home and I will not be identified in the study and any information given will be anonymous.

Signature of Participant.....Date.....

Signature of Researcher.....Date.....

Appendix 19

Risk Assessment

General Risk Assessment Form

Before completing this form, please read the associated guidance on 'I: Health & Safety/Public/Risk Assessment/[Guidance](#)'. This form should be used for all risks except from hazardous substances, manual handling & Display Screen Equipment (specific forms are available for these). If the risk is deemed to be 'trivial' there is no need to formally risk assess or record.

All completed forms must give details of the person completing the assessment and be dated. Risk assess the activity with its present controls (if any), then re-assess if action is to be taken and after further controls are put in place.

The completed form should be kept locally within the School/Professional Service.

1. Describe the Activity being Risk Assessed:

PhD research project – data collection

Understanding the impact of nutrition training for care workers in Dorset : A mixed methods approach

2. Location(s)

Various

1. Questionnaires will be collected before each of the training courses at site of training course After each training course they will either be sent out via post with stamped addressed envelopes for the attendee to return or at the post training follow up session depending on training course attended
2. All interviews and observational data will be collected in situ at care homes. The aim is to interview participants in quiet public places. Observational data will be collected in the dining room over mealtimes.

3. Persons at potential Risk (e.g. consider specific types of individuals)

1. Researcher
2. Participant of course
3. Elderly care home resident participant

4. Potential Hazards (e.g. list hazards without considering any existing controls):

Unaccompanied site visits for collecting all qualitative data (Researcher).

Participants taking part in interviews getting upset or not managing to cope during interview due to tiredness, illness or other unforeseen issue. (Participants)

Participants not being able to communicate during interviews (Participants)

Breach of confidentiality (Participants)

Loss of data: questionnaires; observational protocol; interviews transcripts and recordings (Participants)

4. Any Control Measures Already In Place:

- The researcher will ensure a third party is fully aware of where she is attending and when. She will always carry her mobile phone and have a list of emergency telephone numbers for unforeseen incidents. Interviews will be conducted in a quiet public place within the care home.
- The researcher has had a full CRB check
- Risk of upset or fatigue at interview. If these become the case then the interview will be suspended or terminated. The researcher will be available for a time afterwards if necessary.
- Difficulties communicating during interview. Professional opinion will be sought to establish if a resident is capable of a 60 minute interview.
- All participants will be informed they can withdraw from the study at anytime without explanation.
- In the event a person has to withdraw from the study mid way through the research all identifiable data will be removed from the study.
- The researcher is also education lead in both programmes. Efforts will be made to reduce potential bias as service provider with a vested interest in the results of the research by:
 - Dedicated facilitators will lead reflective sessions at the care-ethics lab.
 - The short courses at Bournemouth University have already been agreed. These are commercially run courses and elements of the course delivery will be by other qualified nutritionists.
- All Participants will be assured confidentiality and anonymity at all stages of the research process. Coding will be used to identify individuals for the second interview, post training, but all information and data collected will be anonymised and either stored electronically protected by a password or a locked filing cabinet. Identifier codes and the list of participants will be stored in separate places. At the end of a reasonable period of time and when the data are no longer required after the research has been written up the data will be destroyed. The data will be used exclusively for the purposes of this research.
- Care will be taken to report findings as generalisations and to retain confidentiality and be respectful of individuals and businesses

6. Standards to be Achieved: (ACOPs, Qualifications, Regulations, Industry Guides, Suppliers instructions etc)

